# THE IMPACT OF THE 1992 NEWFOUNDLAND FISHERIES CRISIS ON SCHOOL CHILDREN IN RURAL COMMUNITIES: A FOCUS ON COMMUNITY PERCEPTIONS, FUTURE CAREER INTERESTS AND ACADEMIC ACHIEVEMENTS



SARAH L. SHARPE

# The Impact of the 1992 Newfoundland Fisheries Crisis on School Children in Rural Communities: A Focus on Community Perceptions, Future Career Interests and Academic Achievements

*by*

**Sarah L. Sharpe**

*A thesis submitted to the School of Graduate Studies in partial fulfillment of the requirements for the degree of Master of Science*

**Faculty of Medicine**
**Memorial University of Newfoundland**

**February, 2004**

*Your file Votre référence*
*ISBN: 0-612-99113-X*
*Our file Notre référence*
*ISBN: 0-612-99113-X*

## ABSTRACT

Past studies looking into the effects of economic crisis in rural communities have focused on adults and adolescents. These studies have indicated that residents have often reacted negatively to the financial and social loss associated with unemployment. These reactions can include depression and a sense of hopelessness when looking towards the future. However, this type of loss can be mediated through economic resiliency if communities turn to alternate industries for employment. Resiliency in rural communities can also be strengthened through close social networks that provide a foundation for support, and aid in coping following economic crisis. Few studies have focused on the effects of economic change on children in rural communities. This study examines the effects of unemployment on children and focuses on communities that experienced economic loss following the 1992 Newfoundland fisheries moratorium.

The purpose of this study was to explore the influence of the moratorium on children's career interests, community perceptions and academic achievements. The children participating in this study lived in two rural communities that experienced high levels of unemployment following the closure of the fishery. One region (A-cove) has since focused efforts on the development of other existing industries while the second region (B-cove) had few alternate resources for employment. Therefore, these two communities experienced different economic situations following the moratorium and provided unique settings with which to compare children's interests, perceptions and achievements.

Nineteen grade four students in A-cove and 22 grade four students in B-cove participated in this study through the completion of a survey on future career interests and through six focus groups on the topic of community perceptions. Academic achievement

was measured with retrospective data from the Canadian Tests of Basic Skills (CTBS). These data provided grade six scores between 1985 and 1991, and four scores between 1987 and 1996 from each community. CTBS data were also compared with provincial scores over the same time periods.

Results showed that children at ten years of age have detailed knowledge of the fisheries moratorium and unemployment resulting from this economic change. It was also found that there were differences between the two communities in the students' opinions. The fishery was not viewed as a viable future career option in B-cove and there was a high importance placed on post-secondary education and the need to leave this community in search of employment. Students in A-cove were less concerned with leaving the community and felt that they could work in the fishery if needed. However, this industry was not seen as an attractive career choice. CTBS scores revealed that academic achievement was relatively constant prior to 1993. Since the moratorium, academic results have improved in both communities. This improvement was especially evident in B-cove.

In conclusion, the fisheries moratorium seemed to influence children's future career interests, community perceptions and academic achievement. Variations in community resiliency following this economic change were also seen to impact children's views and future goals.

It is recommended that grade four students might benefit from home and classroom discussions surrounding the topics of education, employment and the influence of the moratorium on their communities. If options on future educational choices and careers could be presented to children, it could motivate learning and help to alleviate any concerns that students may have.

## ACKNOWLEDGEMENTS

I would like to acknowledge that this project was part of a larger three-year research program, funded by the Social Sciences and Humanities Research Council of Canada (SSHRCC) and the National Health Research and Development Program (NHRDP), which is now part of the Canadian Institutes of Health Research (CIHR), under the theme of Society, Culture and the Health of Canadians II. The participation of teachers, parents and students in both A-cove and B-cove is very much appreciated.

The inspiration for this study came from my supervisor, Dr. Michael Murray and I will value the lessons I have learned from him in all of my future academic ventures. I would also like to thank him for his understanding as I had a last minute decision to complete the majority of this work via distance from Toronto.

My family is and always has been a huge support throughout my academic career and I would like to thank my mom for always listening and providing sound advice, my dad for his knowledge and guidance, and my brother as he sets a high standard in scientific research that I both appreciate and admire.

Lastly I would like to thank my friends for their fresh perspectives throughout my thesis. A special thanks goes to Richard, who has stood by me with overwhelming patience and has lightened my writing days with humor and encouragement.

## TABLE OF CONTENTS

## LIST OF TABLES

## LIST OF FIGURES

# CHAPTER 1: INTRODUCTION

In 1992, thousands of fishers and fish plant workers in rural Newfoundland became unemployed following the introduction by the federal government of a moratorium on much of the fishing industry. Residents of many rural communities had few options for alternative employment since their economy was largely based on the fishery. Due to the lack of employment opportunities some youth left these communities in search of alternative work and social assistance became a necessity for many of the older residents.

There are few economic crises that compare to the fisheries moratorium. One of these few comparators is the farming crisis that occurred in rural mid-western communities of the USA during the 1980's. For many adults, that crisis resulted in health problems and marital conflict. There is a growing body of research on the impact of the fishery moratorium on the health and well being of Newfoundland communities. This has confirmed the negative impact on adult residents.

The majority of past research studies on unemployment in rural Newfoundland and elsewhere has focused on the impact on adults and their reactions to such economic change. There is some evidence from farming studies in mid-western Canada demonstrating that children also react negatively (Wolfe, Masrour, Coursay & Kempster, 1986). It has been suggested that unemployment effects children via negative parenting behaviors, which in turn, result in child delinquency, poor behavior and lowered academic achievement (Schliebner & Peregoy, 1994; Keating & Hertman, 1999). However, there have also been studies that show family and community resiliency during crisis. Children in more resilient families have shown positive coping mechanisms during economic crisis (Frude, 1991). The effects of the moratorium on children in rural Newfoundland are unclear.

Community perceptions and future career goals have been studied in adolescents in rural Newfoundland communities. These studies of adolescents have shown that they foresee the need to eventually leave their communities in search of work or post-secondary education. Parents are seen as generally supportive of this need to leave the community (Genge, 1996; Pinhorn, 2002). Academic achievement of adolescents and adults has increased substantially in Newfoundland over the last couple of decades as compared with the rest of Canada (Government of Newfoundland and Labrador, 1998). It is unknown whether this is a reflection of economic change following the moratorium. Research on community perceptions, future career interests and academic achievement has not been extended to children.

There is a need to explore further the impact of the fishing moratorium on the health and well being of children living in these rural communities. The present study was designed to focus on ten-year old children who have grown up during the cod moratorium. It has been established that children at this age are beginning to base future choices on personal interests and examples that are provided to them by their parents, siblings and other role models (Ginzberg, Ginsberg, Axelrad & Herma, 1951). While these children are unlikely to have concrete career goals, they have ideas of possible careers that they would like to explore (Gottfredson, 1981). It follows that these children may have also formed some beliefs about the positive and negative aspects of their communities.

## Statement of purpose

Many rural Newfoundland communities were originally established due to the thriving fishing industry. For centuries, residents of these communities depended on the fishery as their primary source of income and few had employment outside of this industry. With the onset of the moratorium, these communities drastically changed with high levels of unemployment and an uncertainty about the future. Adolescents could no longer rely on work in the fishery upon high school graduation. Since the moratorium, it is largely unknown whether the fishery will once again become available and many residents of fishing communities are torn between waiting for its return and finding work elsewhere. With these economic uncertainties it is important to understand children's perspectives on their communities and on future career goals. It is unknown how the moratorium will have affected these perceptions and goals.

The effect of the moratorium on children's academic achievement is also largely unknown. It could act as a motivating factor as children see the need to do well in school in order to go onto post secondary education and eventually find work outside of the fishery. Conversely, the moratorium could influence children more negatively, instilling a sense of helplessness with future unemployment perceived as inevitable.

Communities as a whole have responded in different ways to the moratorium. Some have developed alternative industries allowing many unemployed fishers and fish plant workers to return to work. Other communities have not been as fortunate and many residents remain on various forms of social assistance.

The community perceptions and career choices of children as they grow up in rural Newfoundland communities will shape not only their individual futures, but also the futures

of the communities. In the broader context of community health, it is important to understand children's reactions to economic change of this nature.

## Significance of the study

Past studies on economic crisis have focused on adults and adolescents and there has been little research on children in this area. When thinking about crisis in terms of the fisheries moratorium, there are no past economic situations that can be used as an equal comparator. In this sense, the present study will provide information on the effects of economic crisis in a unique context, the Newfoundland fisheries moratorium.

Academic achievement is an important measure of community well being. Some past studies have demonstrated a decline in academic achievement following economic crisis and have also noted increases in behavioral problems among adolescents and children. These academic declines were attributed to a lack of motivation, a lack of resources and a general sense of social exclusion (Flanagan & Eccles, 1993; Keating & Hertzman, 1999). A study by the Government of Newfoundland and Labrador (1998) found that the academic achievement of adolescents and adults in Newfoundland has increased over the past two decades. However, it is unknown whether children in Newfoundland communities will have responded in this way. Research on resiliency in these communities supports a positive outlook on academics and future career goals in adolescents (Ommer, 2002; Stewart, 1999). The present study will look at academic trends for children in rural communities that have been affected by the moratorium.

Studying children during times of economic stress allows one to consider potential areas for implementing social and academic support. The present study will indicate if

children at this age are beginning to consider their futures and also if the effects of economic crisis within their communities has influenced their expectations and goals. Parents and schools in communities experiencing future economic decline may find this information useful in aiding children to best prepare themselves for the consequences of such change and also when looking toward the future.

This study will be carried out with students in two rural communities that have both suffered economically due to the fisheries moratorium. However, these communities have adapted in different ways. One community, which will be referred to as B-cove, has remained without another major industry to support its population. The other community, A-cove, has several industries that have provided work to unemployed fishers and fish plant workers since the moratorium. It will, therefore, be interesting to look at similarities and differences in the community perceptions, career goals and academic achievement of children in these two communities. Results from the study will reveal differences in children's perceptions between the two communities and provide information on potential areas of support needed within each type of rural area.

# CHAPTER 2: LITERATURE REVIEW

## 2.1 Economic crisis and the link between adult unemployment and children

### 2.1.1 The Newfoundland fisheries moratorium

When settlers first came to Newfoundland in the late seventeenth century they were quick to realize that the fishery provided a strong natural resource upon which they could develop their livelihood. The province steadily increased in population and rural communities spread along the coasts with their residents largely dependent upon the fishery for employment. The fishery was seen as a way of life for many, with boats passed down through the generations and a surrounding sense of security that fishing would always be a part of the community. Three hundred years later, the fishery remained the primary source of income for many Newfoundlanders. During the 1980's, the cod stocks began to decline and environmental agencies recommended that the only means of replenishing this valuable resource would be to issue a ban on fishing. In 1992, the fisheries moratorium was implemented in Atlantic Canada. The cod fishery was most dramatically impacted by this moratorium. Over 39,882 plant workers and fishers lost their only source of income. Almost 28,000 of these workers were located in Newfoundland (Human Resources Development Canada, 1998). Several fish plant operations closed, while others were able to maintain their companies through downsizing. Many of the fishing vessels were sold and some were refitted to fish for other species such as clams or shrimp. Unfortunately these alternate fisheries did not employ as many people as the former cod fishery. The economy of over 400 rural communities suddenly ground to a halt (Gien, 2000).

What did this mean for families in rural communities? The federal government supported unemployed fishers through the introduction of the Northern Cod Adjustment and Recovery Program (NCARP) and The Atlantic Groundfish Strategy (TAGS). This program supplied financial assistance to many families for the next ten years. However, as with any social assistance programs, dependence on TAGS led to a decline in family income and a loss of control over their lives that many had never before experienced. The family structure experienced immediate transition, with husbands at home for the first time and some wives taking on the role of primary breadwinner if able to maintain employment outside of the fishery (Ommer, 2002).

For many families, both husband and wife were once employed in the fishery and finding work in another industry was difficult. This remains a serious challenge as many rural communities have few areas of employment outside of the fishery. Additionally, the majority of fisher people had limited education, often nothing past a grade ten level in high school. In order for these families to obtain alternative work many needed to improve their academic status. Some were able to receive financial assistance towards this type of education through TAGS. While younger fishers immediately took advantage of the opportunity, it was difficult for older adults with families to leave the community for schooling (Human Resources Development Canada, 1998).

As Newfoundland employment opportunities have always been limited, some rural families were separated for several months of the year while one parent left the province in search of work. Many went to industrial jobs in Ontario while others traveled as far as Alberta to work in various areas of construction (Kavanagh, 2003).

### 2.1.2 The impact of unemployment

A prominent figure in describing the impact of both employment and unemployment on sense of well-being has been Marie Jahoda. Her research focused on Marienthal, a small village just outside of Vienna in which the majority of its workers were employed in a local textile factory. In 1930, this factory closed down, rendering three quarters of the village residents without employment. Jahoda's study followed residents of the village for several years and documented interviews, conversations, loan figures and various demographic indicators (Jahoda, Lazerfeld & Zeisel, 1971). As the study took place during an economic depression, it focused on the issues of poverty and unemployment. It should be noted, however, that Jahoda separated the issues of poverty and unemployment and only theories surrounding the latter subject will be discussed here.

The dominant theory that resulted from the Marienthal study was that of viewing employment as a social institution. Some characteristics of employment include social contact, activity, purposefulness, status, time structure and being controlled (Jahoda et al.1971). One aspect of the theory of employment as a social institution is that an individual's occupation provides structure for each day. The need to fill time with planned activities is practically a universal trait among human beings and employment fulfills this need by providing a day with planned activities and a demand for punctuality. A second aspect of this type of social institution is that it offers a collective purpose to employees. They have a reason for getting up at a certain time each day and can enjoy the satisfaction of working towards and accomplishing certain goals. In this sense, employment also aids in developing environment clarity, in that certain goals are defined, workers are familiar with their surroundings, and their role within the work community is established.

Social contact and social standing are also important aspects of Jahoda's theory. For many, occupation brings with it a social circle of acquaintances or friends. This is often a primary or secondary (following the family) source of socialization and can be difficult to replace following job loss. Work environment and social contacts often provide a central reference for social standing. When asked who a person is or what they do, the response often entails a description of their employment. People tend to construct a sense of self within the context of their work and family environment. Consequently, it is of little surprise that unemployment brings with it feelings of social loss and lowered self-esteem. The final factor in describing employment as a social institution is its function in providing financial security. When this security is lost material wealth drops, as does standard of living and social status (Jahoda et al. 1971).

It is apparent that the fisheries moratorium affected residents in the communities in many ways. In light of Jahoda's (1971) theory, it may be that financial loss could have been coupled with decreased daily structure and a decline in meaningful activities. There may also have been a loss in social relations and status within the community. This in turn, could potentially have had dramatic effects on family structure and consequently, on children. However, it is unknown whether this is the case in rural Newfoundland communities as fishing was mostly seasonal work and residents were used to periods of time during the winter months with no employment.

### 2.1.3 The fisheries crisis as similar to the farming crisis

There are few accounts of massive unemployment in other industries that are comparable to that of the fisheries moratorium. When comparing past crises to the

moratorium it is important to keep in mind the unique nature of seasonal rural employment. Rural work is often seen as a way of life (Jahoda et al. 1971). There is a unique security in community networks and extensive family histories in which employment in industries such as fishing and farming has been passed down the generations for centuries. This type of work is usually seasonal, however, residents in rural communities often benefit from social support during times of unemployment. Without this type of support, it is believed that economic hardship results in higher levels of psychological distress (Murray, Hargrove & Blank, 1998).

The farming crisis of the 1980's provides a similar situation in which the consequences of large-scale unemployment in rural communities can be examined. A major factor that initiated this crisis was when the European Community began oversupplying wheat and selling it on the international market at low prices. Consequently, Canadian and U.S. farmers received less income for their wheat. During this time, farmers were also moving from subsistence agriculture into industrial size companies. They expanded their farming through the purchase of expensive equipment, fertilizer, pesticides and herbicides. Unfortunately, interest rates on loans from these purchases rose steadily. This combination of European competition, and high interest rates left farmers bankrupt and led to the closure of many family owned farms (Lind, 1995). This crisis was similar to that of the fishing industry in that unemployment came suddenly and brought with it an end to a certain way of life for whole communities.

The farming crisis provides a useful account of the emotional and familial difficulties that follow community economic disaster. A study by Rosenblatt (1992) that looked at farmers' reactions in Iowa, showed that many farmers tried to compensate financially by

working extra hours on other farms or by holding down part time work outside of the farm. This did not, for the most part, aid in financial matters and seemed to create health and relationship problems because families spent increasing amounts of time apart. Other farmers cut down on expenses, postponed payment of loans and borrowed from neighbors and friends.

Many families avoided social occasions because they did not want to spend money and they were often ashamed or embarrassed by their financial situation. The economic strain caused arguments and blame among many couples, arising from feelings of frustration, anger and anxiety. Overwhelmed by grief, many found themselves depressed and lacking the motivation to keep fighting. Others felt that the situation was hopeless and that they were empty without the farm as it had always been their way of life. These feelings were also described in a study by Hill (1983) that looked at job loss in Newfoundland prior to the cod moratorium. One participant in that study summarized the feelings of many when he said: "Just waste my time I guess – drink a few beers – nothing creative, just lounging around. Nothing to do with my time was the hardest thing. Financially I was okay – but I was just in all day and feeling useless." (p. 187)

A similar study by Martinez-Brawley and Blundell (1991) also looked at farmer's reactions in Iowa as well as in Pennsylvania. Interviews with families revealed that the crisis had brought about a weakening of traditional assumptions regarding the fairness of life. The interviewees focused on the injustice of the situation and felt helpless about the future. There was a common view that success and failure were not related to deservingness. However, when asked about the need for help, many responded that they did not require a special kind of assistance as a group, rather, they were concerned with not being understood by outside

governmental systems. This seems to tie in with the Rosenblatt (1992) findings of fear of embarrassment due to blaming the families for their economic failure, rather than the government and surrounding policies.

Feelings of helplessness, guilt and embarrassment combined with financial strain can lead to even larger problems in families that have experienced economic crisis. It has been demonstrated that some members of farming families experienced episodes of depression, suicidal thoughts and increased substance abuse (Ortega, Johnson, Beeson and Craft, 1994). These trends are consistent with Jahoda's theory of employment as a social institution and as a way of life (Jahoda et al. 1971). Farmers and fishers see themselves as temporary custodians of family heritage. When their work is lost, their way of life suffers and the sense of failure that can bring feelings of depression is deeply personal. As one farmer pointed out in Rosenblatt's (1992) study: "[my wife] felt a lot like I did.... I'm sure she was depressed at times. Nothing like I was.... she wasn't losing her identity. She was still a teacher, but what was I?" (p. 73).

Another similarity between farmers and fishers is that they are at a certain disadvantage when searching for a new field of work. They often lack any formal education or qualifications since they have learned their previous trade from their parents. Thus, loss of employment leads to government assistance in order to pay debts and to seek further education or job training. Once they qualify for another type of employment, farmers or fishers will likely have to work in an employment hierarchy for the first time. This can be difficult when used to being one's own boss, and can bring with it feelings of being pushed down the social ladder (Wolfe, Masrour, Coursey & Kempster, 1986).

Research by Lempers, Clark-Lempers and Simons (1989) looking into the effects of the farming crisis on adolescents showed that there were some negative reactions such as depression and loneliness. Increases in adolescent misconduct were also found as youth showed signs of elevated drug abuse. The authors of this study suggested that these reactions were a result of changes in inconsistent parental discipline and decreased nurturance. Rosenblatt (1992) also notes that adolescents experienced changes in financial stability directly through restrictions in spending. It became difficult for these youth to wear the latest styles of clothing and to go out with friends as often as they would have liked. This, in turn can lead to social isolation or even exclusion, as these economically deprived youth experienced a decline in social popularity.

The effects of financial loss during the farming crisis were also noted in young children. Similar to the changes in behavior seen in adolescents, children reacted with crying, rebellion, sleep disorders, anxiety and lower school grades. It was suggested that this was due to negative parenting style following financial loss (Wolf et al. 1986).

### 2.1.4 Negative effects of unemployment on parents

In order to understand the impact of unemployment on children, it is important to first investigate changes that occur within parents. Jentoff (1993) describes the effects of the Norwegian cod fishery closure in 1989. Families reacted with shock and disbelief as their way of life had suddenly ended. With increasing financial difficulties and unpaid bills, there was little hope in many communities. This lack of hope that is often associated with unemployment can be related to the *Learned Helplessness Theory* (Seligman, 1975). This theory states that feelings of helplessness evolve from events that are uncontrollable in one's

life. As these feelings persist, the helplessness becomes routine, or learned and a person may begin to assume that all events are equally out of their control. Consequently, learned helplessness can lead to depression and can also be passed on to children as they observe parental reactions to certain events and situations. Schliebner and Peregoy (1994) have established that children and adolescents cannot accurately envision their future in a work environment. They rely on parental feedback regarding employment, and negative feedback can lead to the assumption that one is unable to control situations surrounding work. This, in turn, can result in low self-confidence as adolescents approach employment for the first time

Another result of unemployment is a reversal of the traditional roles of husband and wife. This occurs when the husband is out of work and the power of economic support shifts towards the wife. With this shift in financial power, the wife is able to assert more control over family decisions and financial affairs. A study by Binkley (1995) found that women in these circumstances following the Newfoundland fisheries crisis, felt a loss in their independence since their husbands were always at home. They also felt that their household responsibilities increased rather than decreased. This could be due to their husband's unwillingness to take on "female" chores or to accept dependence on their wife's income. Elder (1998) points out that husbands who experienced this role reversal during the Great Depression often felt inadequate and even displayed their negative feelings through withdrawal or hostility. Familial conflict often resulted from high emotional stress and blame for financial decline. As previous self-concepts that were once rooted in employment were questioned, unhappiness and anger quickly rose. Elder's work also pointed out that following job loss there was increased alcohol consumption due to boredom as well as social isolation.

### 2.1.5 Negative effects of parental unemployment on children

As parents experience the stress of unemployment, negative reactions such as depression and anger can also affect their children. The following (see Figure 1) is a theoretical model proposed by Elder, Lorenz and Simmons (1994), that illustrates the potential relationships between economic crisis, parental reactions and adolescent behavior.

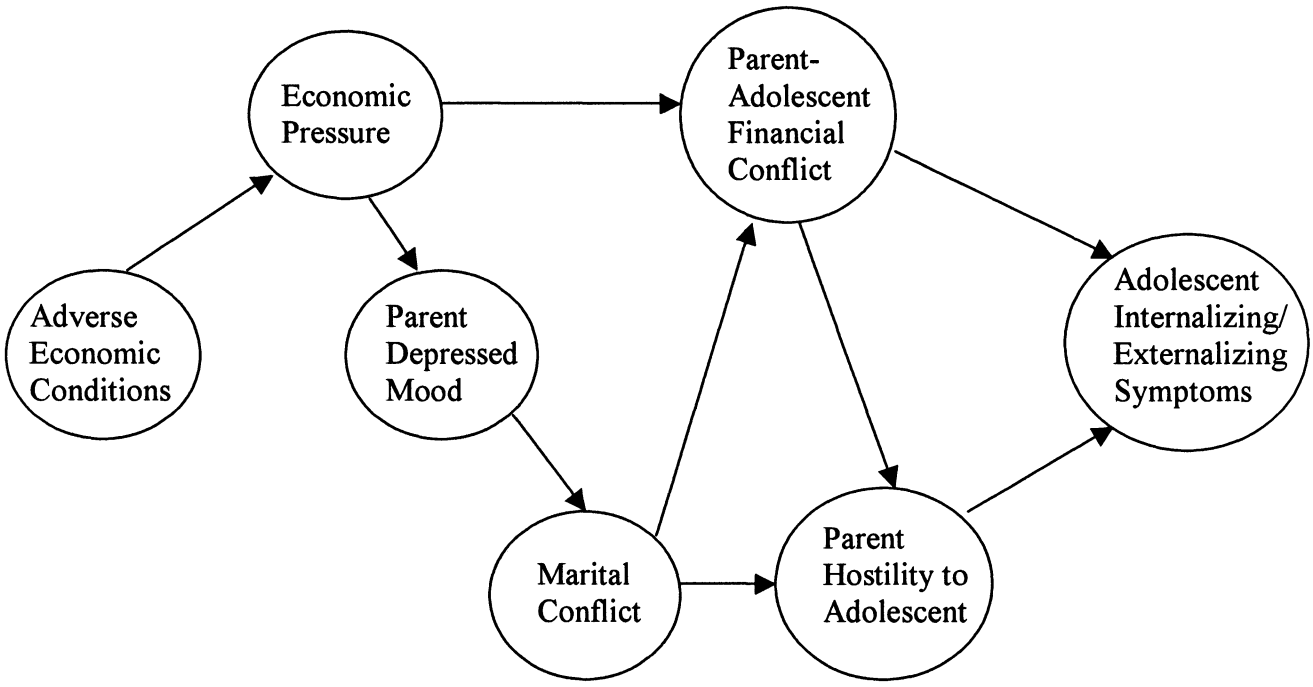


Figure 1. A theoretical model of the relationships between economic crisis, parental reactions and adolescent behavior. (Source: *Economic stress, coercive family process and developmental problems of adolescents, Elder, G., Lorenz, F. & Simons, R., p.544*)

This model suggests that adolescent behavior is moderated by parental mood and marital conflict. Financial strain also creates tension between parents and adolescents through a need for decreased spending. It is through these two mechanisms that children and adolescents of unemployed parents can experience the negative effects of economic crisis.

This model was derived from a study that also considered how adolescents internalize and externalize symptoms associated with economic decline. The study was conducted in rural Midwestern farming communities in the United States during the late 1980's. In examining adolescent reactions to familial financial loss, Elder et al. (1994) were able to define certain common behaviors and symptoms in this age group. Internalizing and externalizing symptoms were found through self-reported depression and anxiety using the *SCL-90-R* and the *NEO-Personality Inventory.* Results indicated that a significant number of adolescents demonstrated internalization of symptoms through state depression, trait depression, state anxiety and trait anxiety, while externalizing symptoms were found through antisocial behavior and aggressiveness. There were also slight differences between boys and girls in the study, with girls showing fewer internalizing symptoms and more externalizing symptoms.

Another aspect of parental reactions to unemployment shows through their methods of child discipline. Schliebner and Peregoy (1994) examined the long-term effects of unemployment on families and child rearing. They found that parents undergoing economic distress demonstrated discipline that was arbitrary, inconsistent and non-nurturing. There is also evidence to suggest that mothers facing unemployment within the family are harsher in their parenting style and they are more likely to undermine adolescent's self-confidence and achievement (Duncan, Brooks-Gunn, Yeung & Smith, 1998). It is thought that these behaviors are expressed due to parental depression, anger and frustration. Another facet of negative behaviors may come from fathers who, for the first time, find themselves at home with child rearing responsibilities. Their dissatisfaction with this new role shows through non-nurturing parental behavior.

Children's behaviors and actions are thought to reflect those of the parents. For example, some children may feel that they are to blame for their parents' unemployment due to their bad behavior. Other children may fear embarrassment and loneliness that can be associated with low income and a decrease in material wealth such as food and modern clothing (Morris-Vann, 1990). Educational achievement outcomes in children experiencing economic decline include poor academic scores, learning problems and grade failure. Similarly, emotional outcomes include juvenile delinquency, depression, anxiety, aggressiveness and anti-social behavior (Keating & Hertzman, 1999). A study by Flanagan and Eccles (1993) confirms these ideas when looking at children's transition from elementary to junior high school. That study found that a decline in parental work status prior to this transition resulted in poor developmental patterns in children. Significant declines in academic achievement and increases in antisocial behavior were found, as compared to students coming from financially secure families.

Kloep (1995) suggests a cycle between parental reactions to economic difficulties and children's behavior as a product of these reactions. Research conducted in Albanian communities undergoing economic decline showed lowered parental nurturance and increased hostility towards daughters. The daughters then demonstrated increases in depressive behavior that was thought to be in reaction to the parent's hostility. Consequently, the cycle continued as parents react negatively to the depressive behavior with more hostility. Circular causality can also be related to the *Family Systems Theory* (Frude, 1991). This theory views families as open systems that respond to the physical and social environment, and influence one and other continuously. When a family member reacts to an

event such as unemployment, such reactions also effect other members, who in turn react in a certain way. These reactions are ongoing and can be either positive or negative in nature.

Parental unemployment has been shown to affect children at a young age. Through the use of the *Bayley Scale of Mental Development* and the *Stanford-Binet Intelligence Scale*, it has been found that low family income has a negative effect on early child development. More specifically, the IQ scores of children at age three has been shown to be negatively correlated with family income. (Klebanov, Brooks-Gunn, McCarton & McCormick, 1998). Similarly, low income has been associated with poor preschool ability which, in turn, sets the stage for transition into the more formal schooling system (Duncan, Brooks-Gunn, Yeung & Smith, 1998). These studies help to set the stage for the present study that focuses on children who have been raised since birth in communities with high unemployment rates.

### 2.1.6 Economic crisis and coping in rural communities

A study by Hill in 1983, looked at the effects of unemployment in rural Newfoundland communities before the moratorium. At that time, most work was seasonal with many workers receiving unemployment insurance (UI) benefits. Seasonal employment included most positions in the fishery and in the agriculture industry. There was little stigma associated with unemployment insurance and it was seen as a necessary component of the industry. However, recipients of social assistance (SA) were often criticized as they were seen as unproductive members of the community. A common outcome of this stigma was social isolation of those receiving SA. The distinction between community members receiving UI as opposed to those receiving SA is important in understanding the social consequences of receiving TAGS. It is unknown which of the former two groups more

closely resembles the social characteristics of TAGS recipients. It seems that perhaps TAGS is more similar to UI, since recipients were previously employed and are, in theory, exploring new work opportunities. Social stigma associated with TAGS may also be reduced due to the large numbers of people receiving this type of assistance.

A recent study by the interdisciplinary *Eco-Research Project* (Ommer, 2002) supports the existence of positive coping mechanisms in rural Newfoundland communities following the moratorium. Fifty-six families in a rural community were interviewed in 1994, with a follow up interview in 1996. Results showed that 90% of adults reported being satisfied or very satisfied with living in their community. Social support networks through family and friends indicated that residents felt very close emotional ties with one another. There were few accounts of distress and despair. It seemed that many families were dealing with the loss of employment through educational upgrading or through a variety of other activities such as berry picking, farming, house cleaning, babysitting, painting and carpentry. The close sense of community is summarized by one woman:

> I love livin' here. I wouldn't want to move. There's nowhere that I can think of where I would want to go. We know everybody. Like the way it is, I can go in almost anyone's house, like to use the phone or anything like that, and you're treated the same; there's no one gonna, like, not let you in. The people are all good – same with the kids here. (p. 304)

Stewart et al. (1999) looked into coping factors that are linked to resiliency in rural communities in Newfoundland and Nova Scotia. They too found that social support and

community connectedness were important factors in determining resiliency during economic crisis. The church was also noted as an important support that aided coping within these communities. There were three main religions in the participating communities: Anglican, Salvation Army and Roman Catholic. Residents felt that the church gave them spiritual support and an increased sense of community and social connectedness.

### 2.1.7 Variations in community resilience following crisis – comparing communities

While residents have various strategies for minimizing the negative effects of unemployment, communities also have mechanisms that can aid in resiliency to economic crisis. In considering the long-term effects of crises such as the fisheries moratorium, on economic sustainability of communities, one can use the example of resiliency following environmental disasters. Many communities in the South Pacific, Middle America and Central America have sustained various weather related disasters such as hurricanes and floods. The survival of communities following this type of sudden economic change has been studied over time by researchers from the Iowa State University. More specifically, Findlay (2003) has monitored communities' responses to these crises and has adopted three main criteria for sustainability: social equity, economic viability and ecological integrity. The first criterion refers to the social capital of a community and the importance of strong social networks that exist before the crisis. Strong social networks are considered to include community residents but also embrace the willingness of the local government when investing in community strategies. The second criterion, economic viability, portrays the need for communities to have sustainable industries that do not rely on boom economies. These types of industries are reliable and are quick to recover from environmental and

economic disasters. Ecological integrity is the third criterion of a sustainable community. Regions with ecological integrity do not harm environmental processes upon which the community relies. Resources are monitored and protected and are not easily depleted over time.

When comparing the fisheries moratorium to Findlay's (2003) sustainability criteria, there are many commonalities. Social equity, as previously discussed, is a main source of resiliency among residents in rural Newfoundland communities. With respect to economic viability, it seems that the fishery was indeed a boom economy and therefore, not a sustainable industry upon which residents could rely. The reason for the unreliable nature of the fishery is related to ecological integrity as the resource of fish was not protected and was consequently depleted over time.

It appears that some communities in Newfoundland have fared better than others since the moratorium. Unemployment rates in several communities have dropped over the past five years as new industries evolved. In other communities unemployment remains high and there have been few alternatives for work since the moratorium (Community Accounts, 2003).

In relation to sustainability, Perry (2000) has developed a manual that outlines various tools for community renewal following economic crisis. Originating in British Columbia, Perry's work for the Center for Community Enterprise is based on forestry renewal and the economy in rural areas of this province. His research has shown that in order for communities to survive economic crisis such as the closure of a major industry, they should involve a "community economic development organization" (CEDO). This type of organization is made up of community members or pre-existing groups that come together

in managing the community's local economy and social supports. A CEDO is multifaceted and aids in the development of local businesses, human resources and the planning and advocacy of creating new jobs. As a center for managing the community, the CEDO is linked with government and non-government organizations within the community so that the various partners can aid in community resilience. This sharing of community partners is similar to Findlay's (2003) sustainability criteria of social equity.

According to Perry's (2000) work, there are four main areas of support for community resilience and renewal. The first is planning, research and advocacy in which an inventory of community assets is developed in relation to residents' skills and consumer expenditures. The next area to consider is building human resources through education, life skills programs and the promotion of volunteerism. Expanding employment services is also important so that residents have guidance with career planning, job searches, mentoring and self-employment training. The third area of support involves business development and the retention and creation of jobs. Planning is an integral part of this development so that businesses can prepare for changes in the economy, and is similar to Findlay's (2003) criteria of economic viability. Community owned businesses are key and joint ventures are seen as highly financially profitable. The final area needed to support community resilience is in addressing the financial gaps through domains such as community loan funds, community based foundations, and program related investments. Special sectors such as tourism are also useful in addressing the financial gaps in a community (Perry, 2000).

An example of community renewal and resilience through the aid of a CEDO is seen in the development of Revelstoke, British Columbia (Perry, 2000). This community was originally settled through a small-scale development of minerals and lumber. In the 1970's it

expanded with the onset of massive hydroelectric projects that created a boom industry in the small community. However, within ten years the dam was complete and there was a closure of the local saw mill and mine that left 2500 people unemployed. In 1986, 25% of the population was without work. This community was renewed through the aid of a CEDO which quickly turned the residents to focus on developing tourism and encouraging new forest and mining investors into the area. As historic buildings were restored, local organizations emerged in alliance with the CEDO, which aided in the development of local business initiatives. Upon the completion of various feasibility studies, a local community forestry corporation was formed and resources were made profitable to the community. Through efficient human resource and skills management the sawmills reopened and outside developers were no longer needed as the community began to control its own resources.

Resiliency is best described through the comparison of communities that have experienced similar economic crises yet have demonstrated different patterns of renewal. Factors that aid certain communities in becoming resilient can then be implemented in less fortunate regions in order to aid residents through community renewal processes. Remier (2000) explored differences in these factors between Canadian communities that were seen as resilient and those seen as less resilient following economic crisis. Throughout this research, resilient communities were seen as "leading" while others were identified as "lagging". Factors that aided the leading communities were similar to Findlay's (2003) sustainability criteria and Perry's (2000) tools for community renewal. These factors included strong social supports that emphasized the integration of various organizations, economic factors such as sustainable employment, and environmental issues such as the need to conserve

primary resources. Reimer's (2000) work also emphasized the need to nurture community based businesses and the individual skills of residents.

Much of the work on community resilience has focused on economic factors and adult social networks. While the importance of sustainable industries, human resources and organizational commitments are well defined, there has not been a focus on children within leading and lagging communities. Following economic crisis, it is unknown whether children in these communities will differ in terms of community perceptions, future career interests or academic achievement.

The general aim of this study is to explore children's reactions to economic crisis. Past studies have mainly focused on adults' reactions to unemployment. These past studies have shown that in many cases adults respond negatively due to both financial and emotional loss. Under these circumstances, children have also been found to respond negatively with poor behavior and lowered academic achievement. However, both economic and social resiliency in rural communities can counter these negative reactions in adults and can create a more positive outlook towards the future. In the context of the Newfoundland fisheries crisis, the effects of economic change on children in rural communities are unknown.

## 2.2 Economic crisis and children's community perceptions, future career interests and academic achievement

### 2.2.1 Child resiliency during crisis

While many families respond negatively to economic crisis, others may respond positively. Frude (1991) describes the *Family Systems Theory*, which holds that each family constructs its own reality. If parents are able to respond positively to unemployment through various coping strategies, it is likely that their children will also respond positively. Family appraisal of a situation greatly influences children's success with coping and adapting. Events that are deemed as controllable, are subject to "reframing" in which a negative event can be placed in a context that changes its meaning to something more positive. Perhaps in the case of unemployment, a loss of work could be seen as an opportunity to upgrade ones education and perhaps follow a more desirable career.

Frude (1991) describes several factors that can moderate a stressful event. These factors include family cohesiveness, adaptability, good communication and family pride. It seems that the power of a collective against economic crisis can lower stress and is also a useful coping mechanism (Jentoff, 1993). When describing the Norwegian fisheries crisis, Jentoff explains that families who sought each other's support as well as the support of others, fared better than those who became reclusive and ashamed of their situation. Communication with others, especially those experiencing the same crisis, had a positive effect on future outcomes and increases family resilience.

Open communication as a coping mechanism, has also been described by Harding and Sewel (1992), as social support develops a sense of community. This is especially true within rural communities in which many people experience similar economic losses.

Families in this situation are less embarrassed by their unemployment, and the usual social stigma that accompanies job loss is also somewhat lessened. Harding and Sewel also note that families experiencing economic decline in rural communities are more psychologically healthy than those in urban centers. It seems that unemployment as the loss of a social institution as described by Jahoda et al. (1971) can be mediated through external coping and social support systems. The latter concept, in particular, can satisfy the needs for collective purpose, structure and social contact.

Parental education and mental ability are also thought to affect coping strategies in children (Parcel & Menaghan, 1994). It is thought that parents with higher education are more likely to have an internal locus of control through well-developed problem solving skills. They also have a tendency towards taking the initiative during problematic situations. The same is held to be true for parents with high mental ability. It follows that children often imitate coping strategies from their parents and learn to view negative situations in a similar light. When thinking of education, it is also useful for children's schools to aid the coping process by enforcing codes that favor equality (Elder, 1998). For example, a school may wish to have a dress code that every student follows, thus minimizing the importance of material wealth and allowing for more equal student relationships.

Parental influence is not the only facet that children use in developing coping mechanisms. In the nature/nurture view of child development, there is also an element of genetic traits that influence the way in which children view the world. Couchenour and Chrisman (2000) note several innate characteristics in children that promote resiliency during difficult situations. Resilient children are more likely to be affectionate, good-natured and active. They quickly learn when it is appropriate to cope through either self-sufficiency or

through external resources when problem solving. In general, children learn to cope through an interaction of personal traits, family strategies and interactions with their community environment.

### 2.2.2 Community perceptions and future career goals – adolescents

In looking at children's career goals and community perceptions, one can identify the influence of economic stress on children's expectations and thoughts. This in turn can help to provide support for children in communities experiencing this type of stress and better prepare them for the future. There has been little research looking into community perceptions or career goals of children, therefore, it is necessary to focus on adolescents in order to provide a foundation for the present study.

Fagan (1998) looked at community perceptions and levels of literacy in a rural Newfoundland community following the cod moratorium. Settlement in this region of the province was based on the fishery and the onset of the moratorium left the majority of families in this area with TAGS as their only source of income. Through surveys and interviews, this study compared responses of youth (in their late teens) and adults (young, mid-age and senior) in the community. Results from this study showed that the majority of adults had not completed grade nine, and were, therefore, considered to be illiterate according to Statistics Canada. However, approximately 90% of adults considered literacy to be "very important" as opposed to "important". One hundred percent of youth rated literacy as "very important". This overwhelming response was seen as a reaction to the increasing need for people in the community to find employment outside of the fishery through higher levels of schooling. Respondents of all ages also indicated that they would encourage

students to finish high school over taking a good job. The influence of the moratorium on future career goals was also indicated as the majority of adults and youth revealed that they would advise a high school graduate to leave the community in search of work. This advice was given despite a strong sense of attachment to the community and a preference among most to stay, if employment permitted. It seems that the moratorium created a necessity for increased education and a trend towards younger generations leaving the community in search of employment opportunities.

A more recent study by Pinhorn (2002) looked at youth in rural Newfoundland in transition from high school to university. The youth in this study are identified as "first generation students", which basically alludes to the fact that they will be the first generation from their families to attend college. Most research surrounding these first generation students describes negative outcomes when they enter post secondary education (Billson & Terry, 1982). These students are believed to be at academic risk as they are likely to fail or drop out early in their academic career. This risk is attributed to several factors such as a lack of parental support and social isolation once in college. Basically these students have fewer resources within their home communities and few positive role models from which they can draw advice. However, some believe that first generation students can do well in post secondary institutions due to an internalized focus and a strong commitment to succeed academically (Pratt & Skaggs, 1989).

Results from the Pinhorn (2002) study support a combination of the afore-mentioned theories. It was found that parents were encouraging their children to do well in high school and to attend post secondary education even though it would be necessary to move away from the community. This type of parental support was seen as a reflection of the economic

challenges currently presented in many rural communities. Students in the study were also supportive of the need for a college education. It should be noted, however, that both students and parents demonstrated a fondness for their community and enjoyed the physical safety and social inclusion that one often finds in rural areas. Many participants agreed that they would rather remain in the community if employment allowed such an opportunity.

Similar results were found in a study by Genge (1996) that also focused on youth transition out of high school in rural Newfoundland. When asked their preferred work location, the majority of students stated that they would like to stay in the community, or at least within the province. There was a realization that this preference would be difficult to follow, given the lack of employment in their community and only 10% of students were adamant about remaining at home. Students also indicated that the most dominant problem when finding a job was the scarcity of work in Newfoundland. Genge's research also supported the notion that parents in rural communities are supportive of post secondary education despite low literacy levels among this older population. It seems that the moratorium has created such economic instability that families no longer rely on the fishery. There is increasing support for continued education and employment in areas such as health care, engineering and the social sciences. The main obstacle in furthering education was a lack of financial support for students. With lower family incomes and a reliance on the government for funding, many students claim that tuition is their main barrier in attending college.

The fishery as a perceived career option in rural Newfoundland has declined between 1989 and 1999 as described by Maher (2002). One half of interviewed grade twelve students in 1989 felt that there would be a decrease in opportunities within the fishery. In 1999, two

thirds of grade twelve students felt that there would be a decrease in opportunities within this industry. This shows that following the moratorium, students believed that the fishery would not provide as much occupational opportunity as it may have in the past.

Malatest (2002) has also studied community perceptions of adolescents in rural communities. Through surveys and focus groups held across Canada, this research explored positive and negative aspects of living in rural areas versus living in larger more urban centers. Results showed that 85% of youth identified their communities as safe places to raise a family, 83% noted the benefits of a clean environment and 77% enjoyed the social supports within these rural areas. However, less than 23% of those interviewed felt that their communities offered opportunities for post-secondary education, career oriented employment, and access to good shopping/restaurants. As one participant noted:

> ...this is a great place to raise a family...except most of us are not thinking about raising a family right now...we want to get an education and start our careers...(p.6)

While there is no record of children's community perceptions and future career goals it seems that adolescents in rural areas appreciate the safety and social networks that their communities offer. However, they feel that it will be necessary to move outside of the community in search of post-secondary education and employment opportunities. This is especially apparent in the research conducted by Genge (1996) and Pinhorn (2002) that focused on communities in rural Newfoundland following the fisheries moratorium.

### 2.2.3 The present study – children at age ten

In past career-oriented studies, researchers have tended to focus on adolescents because they are at a stage in development when the identification of career goals becomes concrete. An early theory of career development was established by Ginzberg, Ginsberg, Axelrad & Herma (1951). This theory outlines four major stages in career development. The first stage occurs before the age of eleven as children imagine themselves in various future careers. At age eleven, children begin to base choices on actual personal interests. Most of these interests come from career examples in their every day lives, such as the careers of their parents, or others in their community. It is important to note that while these interests are being considered, children in this stage of development have not gained the ability to accurately judge their competencies and are also vague about alternative careers. The latter point is mainly due to the knowledge that they have a long time before they have to decide on a career. The third stage of this theory encompasses the development of capacities and the ability to assess abilities when making choices regarding future careers. This stage of development begins between the ages of thirteen to fourteen. The development of values soon follows at age fifteen when career choices are based on personal values such as the desire to make money or maybe to work with a certain disadvantaged population. The final stage of this theory is known as the transition period where the reality of certain professions is considered. At age 17-18, children in this stage take into account financial issues of post secondary education, job availability and where they can best use their strengths and skills.

Another developmental theory is Super's (1990) model of career development that focuses on children in elementary school. This theory describes several concepts of child development and the relation of these concepts to career development. The first concept is

that of curiosity which is driven by social and physical needs and eventually the desire for knowledge, which leads to exploration. In a career context, curiosity about certain professions can lead to the exploration of these professions through observation or even role-play. The exploration of careers leads to acquiring information, which is the third concept in Super's (1990) model. Occupational information is gradually developed over time, as new information adds to a list of possible careers or modifies old perceptions. As adults are important role models in children's conceptualization of careers, many become key figures. This concept refers to children's relation of certain careers with specific adults in their lives such as their parents, teachers, public figures, or even people seen on television. Another concept is that of internal versus external control. As children develop internal control over their behaviors and surroundings, they also begin to see future careers as something within their control. A concept similar to a stage described in Ginzberg et al. (1951) is that of the development of interests. This concept is closely linked to curiosity and exploration as children imagine themselves in different occupations through fantasy or role-play. Another concept that is related to Ginzberg et al's (1951) theory is the development of time perspective in which children gradually understand the time frame between elementary school, college and eventually a career. The final concept in Super's (1990) model begins in late childhood and extends into adolescence. It is during this time that self-concept develops and planning for the future begins. Children finally separate themselves from others in terms of their interests and the accomplishment of goals becomes increasingly important.

Gottfredson (1981; 2002) describes a *Developmental Theory* that combines occupational choices with socialization values. According to this theory, the first developmental stage occurs between the ages of three to five. At this early stage, children

view occupations as an adult's role and do not envision themselves with a future career. Between the ages of six and eight children go through the second stage that focuses on gender appropriate occupations. The third stage encompasses ages nine to thirteen, in which children begin to associate value and prestige with various occupations. It is during this stage that children begin to imagine themselves in certain occupational roles. However, it is not until the final stage of fourteen years and older, that adolescents begin to internalize the self as a unique person. During this final stage, occupations are rated according to prestige, interest and self-gratification.

The present study focuses on children that are in Gottfredson's (1981; 2002) third stage of development and Ginzberg et al's (1951) second stage of development. Therefore, it is not expected that these participants will have a concrete definition of their future career interests. Rather, the objective of the study is to look into possible influences that the fisheries moratorium may have on their perceptions of possible careers. Perhaps through hearing parent's conversations, these students will have preconceived ideas of whether they should become fishers or plant workers. They may or may not begin to think about moving away from the community in the future in order to find employment. It is known that children under the age of twelve are influenced by occupational information brought out by the media, their families and their schools (Schmidt, 1999). Swanson and Parcover (1998) also mention that there has been a lack of studies looking into the role of early childhood in shaping future careers goals. These authors note that parental influence during childhood may have a large impact on future career decisions made in adolescence and adulthood.

One of the few studies that has focused on career development in early childhood was conducted by O'Neill (1998). This study looked into career perceptions of grade three and

grade six students in both urban and rural Newfoundland schools. It should be noted that according to Gottfredson's (1981; 2002) *Developmental Theory*, these students were in the third stage of development. Results from O'Neill's (1998) study indicated that students in grade three were able to correctly match occupations with a job description 70% - 95% of the time, while students in grade six correctly matched the descriptions 95% - 100% of the time. This shows that the developmental period between grade three and grade six, is important when learning about various occupations. Children in this study were more familiar with the occupational role of a fisherman than any other occupation. The latter result was likely due to the fisheries dominated environment in which most of these children have been raised. Results also indicated that the primary source of career related information was the media. Secondary sources included relatives and personal contacts, while books were least important as a source of information.

### 2.2.4 Parental literacy and socioeconomic status – the influence on children

When looking towards the future of children in rural communities, it is important to focus on literacy levels within these communities. Literacy is a well-known indicator of academic achievement that in turn provides the foundation for post secondary education and future career goals (Golbeck, 2001). The fishery no longer provides stable employment for future generations, and families must rely on a solid education to find work either within their hometown or in more urban areas. It has been well established that adult literacy levels in many rural Newfoundland communities have been quite low in the past. In 1992, 72% of TAGS recipients had less than a high school level of education. More recently, in light of the fisheries closure, there has been a move towards improving literacy with educational funding

for fishers through TAGS. However, only 27% (10,693) of the 39,882 people receiving TAGS took advantage of funding for educational training. One possible reason for not making use of this funding was that 49% of the TAGS clients was over the age of 40 and did not want to begin a new career. The majority of clients (74%) of the 10,693 that took educational training were between the ages of 20 and 40 years. Another factor that contributed to the low rates of re-training was that residents did not want to leave their community in search of educational opportunities (Human Resources Development Canada, 1998).

Based on the social interactionist theories of Vygotski, literacy development takes place in the context of communication between the child and his or her family (Daiute, 1993). With adults playing an important role in literacy development, it follows that parental level of education will provide the foundation for children. Parents with poor literacy skills may be unable to effectively help their children with academic learning, which could result in underachievement. Consequently, children may not feel motivated to learn, and literacy may be seen as unachievable (Seifert, 2000).

There are several ways in which parents can aid literacy development in their children, such as reading together, making sure that there are various reading materials around the home and having a positive attitude toward literacy. However, Morrow (1995) has shown that young children do not necessarily need a supportive home environment in order to succeed academically. Many children of non-English speaking immigrants, for example, excel in North American schools. This research supports the notion that young children can do well in literacy with either a stimulating home environment or an enriching school environment. However, Morrow also points out that these findings are not so easily

applied to children in upper grade levels as they may need support from both home and school in order to succeed. It seems that in this *later* stage of academic development, parental support, rather than parental tutoring plays an important role in student achievement. As with many developmental paths, children's literacy and academic development depends on the complex interaction of several factors.

### 2.2.5 Economic change and academic achievement

Few studies have looked into economic change and academic achievement over time. Similar to other research on economic change, the focus has been on adolescents and adults. One study in particular by the Government of Newfoundland and Labrador (1998) examined academic achievement in residents over the age of 15 in Newfoundland between 1976 and 1996. Results showed trends that occurred prior to and during the fisheries moratorium. Data for this study were attained from several sources including Statistics Canada, the School Leavers Survey, and the Department of Education. This study revealed that there was a 67% increase in the proportion of 20-34 year olds with university degrees between 1976 and 1996. Newfoundland had higher gains in educational increases during this period than the rest of Canada. Over the 20-year period the Canadian average increase in the proportion of residents with a college/university certificate or diploma was 119%, while the Newfoundland increase was 143%. Between 1987 and 1996 this province's high school graduation rate increased from 62.7% to 82.2%. In general these results show that Newfoundland residents have made significant gains in academic achievement between 1976 and 1996. These gains are higher than national improvements in education, especially following the fisheries moratorium.

One of the few studies focusing on children and education in Newfoundland is the *Interdisciplinary Eco-Research Project* (Ommer, 2002). This study looked into the perceptions and academic achievement of children in a rural Newfoundland community. More specifically, 48 children in grades 2, 5 and 10 took part in the study in 1994 and again in 1996. These children all lived in an area that had been economically impacted by the moratorium and they had at least one parent who was unemployed as a result of the fisheries closure. Through an examination of *The Canadian Tests of Basic Skills* (CTBS), achievement in listening, reading and math problems were assessed. Findings from this study showed that the academic achievement of these rural elementary school students was consistent with provincial averages. However, the study does not indicate any trends over time during the moratorium. Through the administration of the *Social Anxiety Scale for Children-Revised* (SASC) and the *Children's Depression Inventory* (CDI), it was found that these students viewed themselves as socially and scholastically competent. These results support the previously mentioned resiliency that is often found in rural Newfoundland communities.

### 2.2.6 Summary

The Newfoundland fisheries moratorium resulted in economic decline in many rural communities as unemployment rates increased and families had few other industries to turn to for work. The majority of adults in these communities still rely on social assistance. Unemployment can be seen not only as a financial loss, but also the loss of a way of life as daily structure and social contact are often defined through ones work environment.

Through the lens of the mid-western farming crisis, economic stress can lead to negative reactions among adults, such as depression, blame and guilt. This in turn can affect children as parenting behaviors change and there is a financial and emotional strain on the family. Children react negatively to economic crisis through poor behavior, lowered academic achievement and emotional difficulties. However, in some instances economic stress can result in resiliency within families and communities. Some positive coping mechanisms include social support systems and reframing situations in a more positive light.

Children's academic achievement and future career goals are often shaped by their parent's level of education. In many rural Newfoundland communities, there are low levels of literacy as the majority of adults have always been employed in the fishery and before the moratorium, have needed very little education to secure employment. However, given that economic conditions have shifted since the moratorium there may now be greater emphasis placed on the importance of education when finding employment. Studies have shown that academic achievement in Newfoundland has increased significantly in adolescents and adults within the last 20 years.

There have been few studies on children during times of economic stress. A focus on adolescents in rural Newfoundland has shown that post secondary education is becoming

more of a necessity in obtaining future employment. Adolescents also indicate that while they would prefer to remain in their communities they realize that they will have to move to more urban centers in search of future employment. It is unknown whether these thoughts have also been instilled in the younger generations.

Developmental theories have shown that children at the age of ten are beginning to consider future careers and are in the process of developing their personal interests in the context of their home and community environment. Therefore, it follows that economic conditions within the community may shape these interests and future goals. In the context of the Newfoundland fisheries moratorium, the effects of high rates of unemployment and economic uncertainty on children in rural areas are unknown.

Past studies on economic change have focused on adults and adolescents. The aim of this study is to consider the implications of the fisheries moratorium on school children. To achieve this aim, the career interests, community perceptions and academic achievements of children in two rural communities that have been differentially affected by the moratorium will be compared.

The present study has three major objectives:

1. To explore and compare the future career interests of children in two rural communities and how these goals may have been shaped by the moratorium.
2. To explore and compare the community perceptions of children in two rural communities following the fisheries moratorium.
3. To explore and compare the academic achievements of school children since the moratorium in two rural communities.

# CHAPTER 3: METHODOLOGY

## 3.1 Design

This study was both observational and retrospective in nature. Observational data were gathered from a cross section of grade four students in two rural communities that had been affected by the fisheries moratorium. These data were collected quantitatively through the use of a survey that explored children's career goals and qualitatively through focus group discussions that looked into their community perceptions. Retrospective data on academic achievement throughout the moratorium were gathered from the Canadian Tests of Basic Skills (CTBS).

The two communities, A-cove and B-cove, were chosen for this study because they had differing economic conditions following the moratorium. A-cove had developed alternate industries outside of the fishery while B-cove had few employment options of this nature. Therefore, the two communities offered a unique opportunity to explore variations in children's perceptions following economic change.

Students in grade four were selected to participate in the study. At ten years of age, these students had grown up throughout the moratorium. Previous studies of this nature have focused on adolescents and their transition into post secondary education, therefore, it was of interest to explore the effects of economic change in children. While it has been established that children of this age have started to develop certain perceptions of future careers based on their experiences (Ginzberg et al, 1951; Gottfredson, 1981), it is unknown whether economic factors within their communities influence these perceptions.

## 3.2 Instruments

### 3.2.1 Future career interests:

The Survey of Early Career Interests (Appendix A) was modified for this study from an early version of the survey first published by the Women's Bureau of Labour Canada (1986). This survey was developed for children ranging from six to fourteen years of age and is, therefore, appropriate for the target age group of the present study. The first page of the original survey was used as it focuses on future career goals, while the second page of the survey was omitted as it deals with gender stereotyping. Non-identifying demographic information such as age and gender was also captured through this survey. The first three questions were open-ended and asked students to write about what they would like to be when they grow up. Question four of the survey ranked various career-oriented activities as "like a lot", "like a little" or "would not like". This section was modified to shorten the number of responses and to add the activities of "be a fisherman" and "work in a fish plant". This allowed the survey to capture student's perceptions of future careers in the fishery.

### 3.2.2 Community perceptions:

Six group interviews were semi-structured in order to have some control over the topic yet also allow room to pursue new ideas as they might arise. The interview guide is included in Appendix B. As outlined in this guide, three main topics were explored. The first looked into community perceptions and knowledge of the fisheries moratorium. This provided insight into children's knowledge of economic circumstances and whether they were aware of the moratorium and its implications.

The second topic explored during the group discussions was that of work and family. More specifically, students discussed the types of careers available within the community. The career choices of young adults were also explored through discussion surrounding older brother or sisters and other relatives of that age group. The final topic looked into the future career goals of the students themselves and whether or not they would like to remain within the community upon graduating from high school. This topic allowed for students to embellish upon their survey responses and also to further explore community perceptions. This part of the discussion also considered students' awareness of their community's economic situation in light of possible future careers.

### 3.2.3 Academic achievement:

The CTBS was used to capture student's academic performance over a period of time. This standardized test is an assessment tool that is used in all schools across Canada from kindergarten to grade twelve. It is administered to each grade at three-year intervals and provides academic scores in vocabulary, reading, language, work study, math and composite. Retrospective percentile scores of the CTBS from A-cove and B-cove were examined longitudinally (1985-1996) to explore academic achievement changes that may have occurred within the two communities throughout the fisheries moratorium. These scores focused on grade four and grade six students throughout this time period.

## 3.3 Procedure

Upon approval from Memorial University's Human Investigations Committee (Appendices F and G) the school district was contacted by telephone and a brief description

of the study was given to the appropriate directors. Details of the study were discussed in a subsequent meeting and verbal consent was given by the school district. The two schools were first contacted by telephone and then presented with the proposed study as outlined in a letter (Appendix C). Upon the schools' approval (verbal), parents of grade four students were contacted through a letter (Appendix D) that was distributed by the teachers. Signed consent (Appendix E) from parents was taken and forms were stored at the two schools until the date of the study.

On the day of the study, verbal consent was first taken from students following a brief explanation of the procedure. All discussion groups took place in a room outside of the regular classroom and students were assured that participation was not mandatory and that they could leave at any time and return to their classroom. They were also assured that taking part in the study would in no way affect their academic grades. Any student without written consent from parents did not participate and remained in the classroom. Discussion groups taken outside of the class had only six to nine students at a time, therefore, there were other students in the classroom at all times. The homeroom teacher remained in the classroom throughout the study in order to minimize any influence that he or she might have on student's opinions.

### 3.3.1 Sample

Participants in A-cove were selected from an all-grade (K-12) school that had opened in 2001 replacing three older schools within this region. Therefore, it should be noted that for purposes of the analysis, retrospective data from CTBS scores combine results from these three previous schools. In B-cove, an elementary school (K-6) was selected for the study.

This school had opened in 1976 and similarly, had replaced five other schools in that region of the province.

In A-cove, 19 grade four students (68% of the class) participated in the study. All students were between the ages of nine and ten with a mean age of 9.53. Thirty-four percent of these students were female and 63% were male. B-cove had a larger grade four class, however, this community had a lower percentage of participants (35%) with just 22 students in the study. Again, all students were between the ages of nine and ten with a mean age of 9.50. There were more male participants (64%) than female participants (36%) in B-cove.

### 3.3.2 Ethical considerations

This study involved participants that were below the age of consent in Canada. Therefore, certain ethical considerations were taken into account. Parents were given a description of the study procedure and an opportunity to contact the investigators with questions. Written parental consent to the study was also taken. Students in the study were invited to participate on the day of the study and could withdraw from the group discussions at any point and return to their classroom. It was accepted if some students in the discussion groups did not wish to say anything and all participation was voluntary. All findings from the study were recorded anonymously and students could not be identified in the results.

The schools were also fully respected during this study. Following a meeting with school board members, written consent was taken prior to contacting each school. Teachers were given a description of the study procedure and had an opportunity to ask questions. An appropriate time slot in during the day for the study to take place was indicated by teachers

and students' recess and lunch periods were not disrupted.

### 3.3.3 Future career interests:

Each discussion group began with the completion of the Survey of Early Career Interests (Appendix A). Following some instructions on how to fill out the survey, students were given ten minutes to complete the questions. All students were able to complete the survey within this time. Students were asked not to talk during this time and the investigator collected the surveys as students finished them. The audio tape recorder was on throughout the survey procedure to allow students to become comfortable with it prior to the open discussion.

### 3.3.4 Community perceptions:

Once the surveys were completed, the investigator conducted a group discussion on the topics of community perceptions and future career goals as outlined in Appendix B. These discussions lasted between 20 and 30 minutes in length. Following the discussion students were thanked for their participation and taken back to the classroom by the investigator. The teacher then gathered the next group of students to participate and the investigator took them to the discussion room. Students were grouped randomly and between the two schools there was a total of six discussion groups.

As all discussions were audio taped the transcription of these tapes was completed immediately following data collection. The tapes were then destroyed in order to insure anonymity of the participants. Observation notes were also taken during interviews in order to note student's non-verbal reactions and to record participation of each student.

### 3.3.5 Academic achievement:

CTBS scores were gathered from the Newfoundland Department of Education. Following a verbal explanation of the study, the percentile scores from this survey were provided from a national database. Scores were collected for the schools in both A-cove and B-cove over the period of 1985 to 1996 for grades four and six.

## 3.4 Data analysis

### 3.4.1 Future career interests:

All quantitative data were analyzed using SPSS for Windows. Descriptive statistics such as frequency counts, means and distribution graphs summarized findings from the Survey of Early Career Interests. Careers were grouped into professional and non-professional categories for analysis. These groupings were based on the early work of Abraham Flexner (1915) who defined a professional as someone with specialized knowledge, individual responsibilities, autonomy, altruism and having a practical service or application. This definition is also reflected in later work by Pavalko (1998) and by Johnson (1995) and is still recognized as the primary definition of a professional. Results were further explored using chi-square analysis, paired-samples t-tests and independent-samples t-tests.

### 3.4.2 Community perceptions:

Qualitative data from each interview were audio taped and then transcribed into a Microsoft Word document. Notes and memos were made during the interviews and throughout transcription. Data from the discussion groups and from questions one to three of the Survey of Early Career Interests were coded according to the Grounded Theory approach

(Strauss & Corbin, 1998). In this approach, qualitative data is analyzed inductively and a theory is developed through a series of steps. Each discussion was coded using line-by-line analysis and in vivo codes where applicable (Creswell, 1998). Still following the Grounded Theory approach (Strauss & Corbin, 1998) this open coding allowed for the identification of emerging categories and trends between participants. Upon completion of open coding, categories and sub-categories were further identified during axial coding. The various dimensions of categories were considered and open codes within each category were compared. This enabled categories to become well defined through the use of descriptive open codes. During the final stage of analysis, selective coding, several models were developed interrelating categories and defining certain concepts in student's community perceptions and future career goals.

### 3.4.3 Academic achievement:

Academic achievement scores from the CTBS were summarized through the use of descriptive statistics. Trends over time were illustrated through frequency graphs. A more in depth analysis of the CTBS was not possible as raw data were available only in percentile scores. It should also be noted that the CTBS was administered to grade six students in 1985, 1988 and 1991, and to grade four students in 1987, 1990, 1993 and 1996. There have not been any subsequent tests with either of these age groups.

# CHAPTER 4: RESULTS

## 4.1 Community Profiles

### 4.1.1 The community of A-cove

This community is located approximately 150 kilometers from the capital city, St. John's. It has a rich cultural heritage and has been indicated as a center for the resettlement of other smaller communities (Slade, 2003).

Looking at the population pyramids for A-cove (Figs 2 and 3), one can see that throughout the moratorium the population has aged and there are fewer young generations within the community (Community Accounts, 2003). With the onset of the fisheries moratorium in 1992, a large proportion of residents in A-cove lost their employment as fishers and fish plant workers. One explanation for this change in population distribution is a possible out-migration of young families seeking education or work outside of the community.

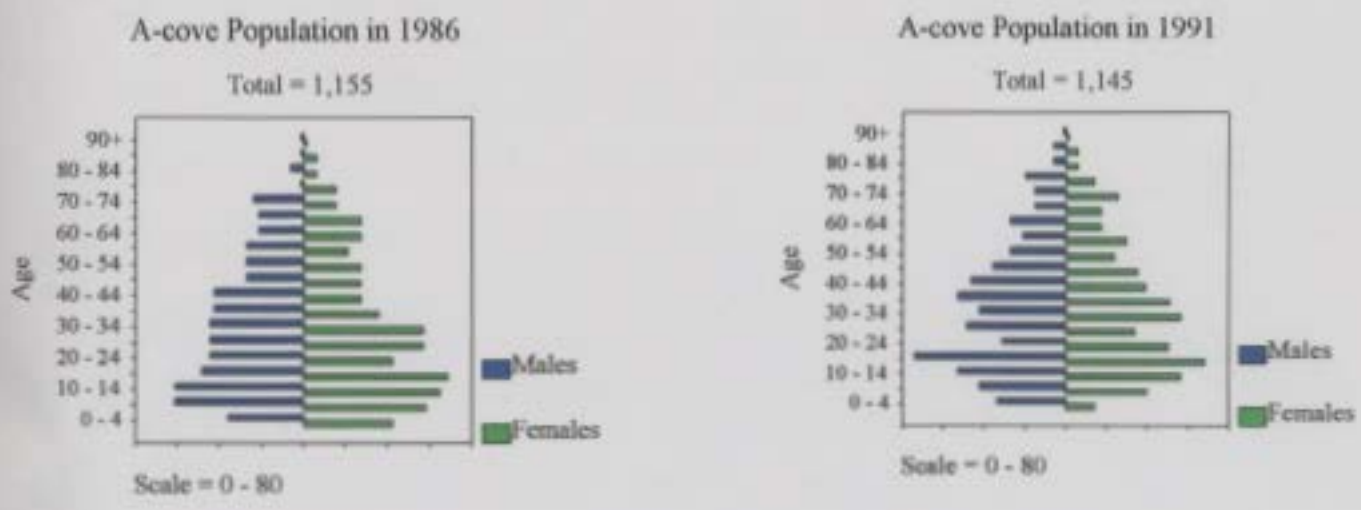


Figure 2. Population pyramids for A-cove from 1986 to 1991. (Source: *Community Accounts*)

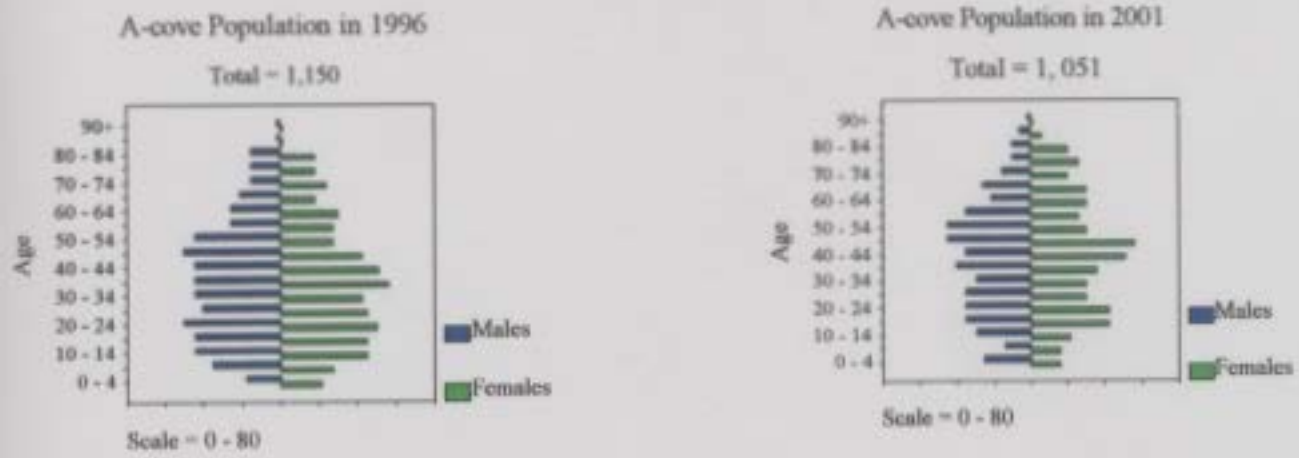


Figure 3. Population pyramids for A-cove from 1996 to 2001. (Source: *Community Accounts*)

For other residents there were industries in this region that could be further developed such as a large industrial plant and a nearby construction site. While the offshore fishery was no longer a viable career option, this community focused efforts on the development of a fish harvesting and processing plant (The Navigator, 2003). It seems that although the population in A-cove is aging, and many young residents have left the community since the moratorium, others have been able to take advantage of alternate employment opportunities.

The following population graph (Figure 4) shows changes in the total population of A-cove throughout the moratorium. Overall there was a drop in the population from 1237 in 1992 to 1167 in 1998. The largest decline occurred between 1993 and 1994 just one year after the onset of the moratorium. Following this period the population increased slightly and in 1998 reached a total of 1167 residents (Community Accounts, 2003).

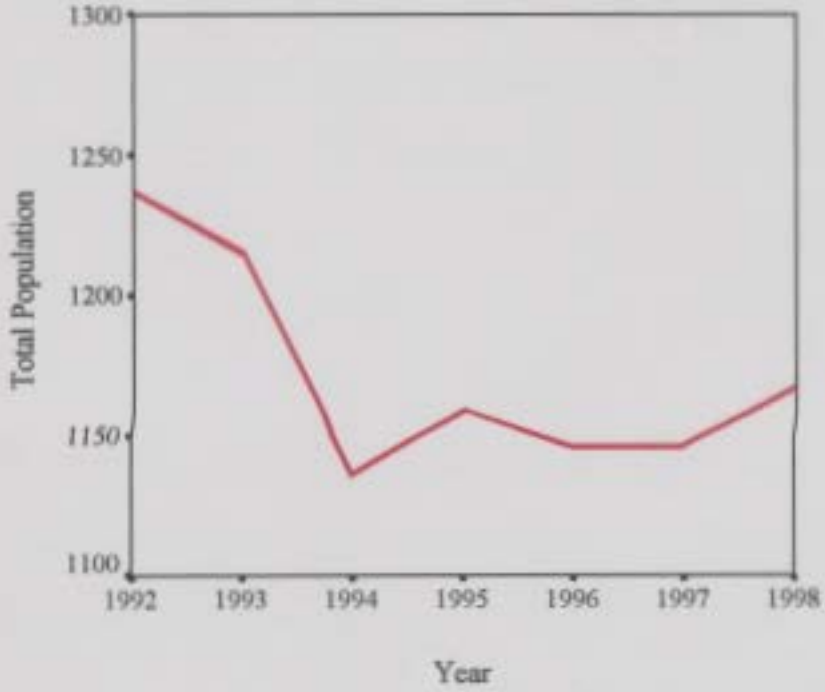


Figure 4. The population of A-cove between 1992 and 1998. (Source: *Community Accounts*)

Table 1 shows population and financial assistance data between 1992 and 1998 in A-cove. Data is described as both a rate and a percentage of the total population. As displayed in this table, the proportion of residents in A-cove receiving social assistance (SA) was low throughout the moratorium at only 6-11% of the population. In general, the number of SA recipients declined throughout the moratorium. This may have been due to an increasing number of those eligible for NCARP and TAGS assistance. Employment (EI) insurance was received by a much higher percentage of the population (30-39%) and increased slightly between 1992 (37%) and 1993 (39%) and then decreased until 1995 (30%). This decrease may have been due to fishers no longer eligible for EI as their seasonal employment was terminated following the moratorium. After 1995, the number of EI recipients was fairly constant with a slight increase in 1998 (33%). NCARP assistance began with the onset of the

fisheries closures as a compensation for loss of employment and it was replaced with TAGS in 1994. NCARP/TAGS assistance peaked in 1994 with 28% of the population receiving this type of economic support. By 1998 only 15% of residents in A-cove were receiving NCARP/TAGS assistance.

The total assistance (Table 1) of SA, EI, NCARP and TAGS combined was greatest in 1994 when 73% of the population was receiving at least one type of assistance. Between 1994 and 1997, this total dropped to 51% and then increased again in 1998 to 54% of the population. It is important to note that some residents may have received more than one kind of assistance at the same time.

Table 1: The rate and percent of the total population of social assistance, employment insurance, NCARP and TAGS in A-cove between 1992 and 1998 (Community Accounts, 2003)

| | **1992** | **1993** | **1994** | **1995** | **1996** | **1997** | **1998** |
|---|---|---|---|---|---|---|---|
| **Population** | 1237 | 1215 | 1136 | 1159 | 1146 | 1146 | 1167 |
| **Social Assistance (SA)** | 115 (9%) | 130 (11%) | 100 (9%) | 95 (8%) | 95 (8%) | 95 (8%) | 70 (6%) |
| **Employment Insurance (EI)** | 460 (37%) | 470 (39%) | 415 (37%) | 350 (30%) | 355 (31%) | 340 (30%) | 385 (33%) |
| **NCARP** | 195 (16%) | 155 (13%) | 90 (8%) | N/A | N/A | N/A | N/A |
| **TAGS** | N/A | N/A | 225 (20%) | 225 (19%) | 220 (20%) | 155 (14%) | 175 (15%) |
| **Total Assistance:** (SA, EI, NCARP and TAGS combined) | 770 (62%) | 755 (62%) | 830 (73%) | 670 (58%) | 670 (58%) | 590 (51%) | 630 (54%) |

### 4.1.2 The community of B-cove

This community is larger than A-cove, with a population of approximately 4100 residents. It is located 260 km from St. John's on the tip of a peninsula (Newedge Tachnologies, 2003). This community has seen steady out-migration with 12.7% of people leaving the community between 1986 and 2001 (Community Accounts, 2003). Similar to A-cove, the majority of out-migration has been in the younger cohorts as the following population pyramids (Figs 5 and 6) demonstrate. However, a main difference in migration patterns between these two communities is that A-cove showed a dramatic decrease in younger generations by 1996, while B-cove showed a similar decrease five years later in 2001.

The out-migration from this community is due mainly to the onset of the fisheries moratorium (Sinclair, 2002). B-cove was originally founded on the fishery and has depended on this industry as its major source of employment. Residents worked on longliners, small fishing boats and in a crab plant. Since the moratorium, most fishers

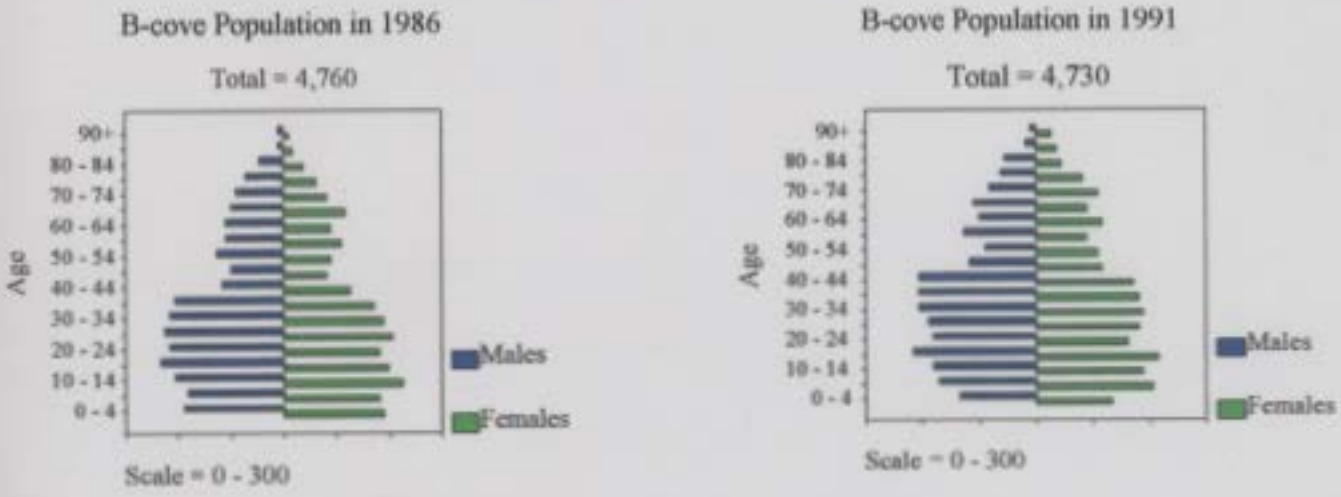


Figure 5. Population pyramids for B-cove from 1986 to 1991. (Source: *Community Accounts*)

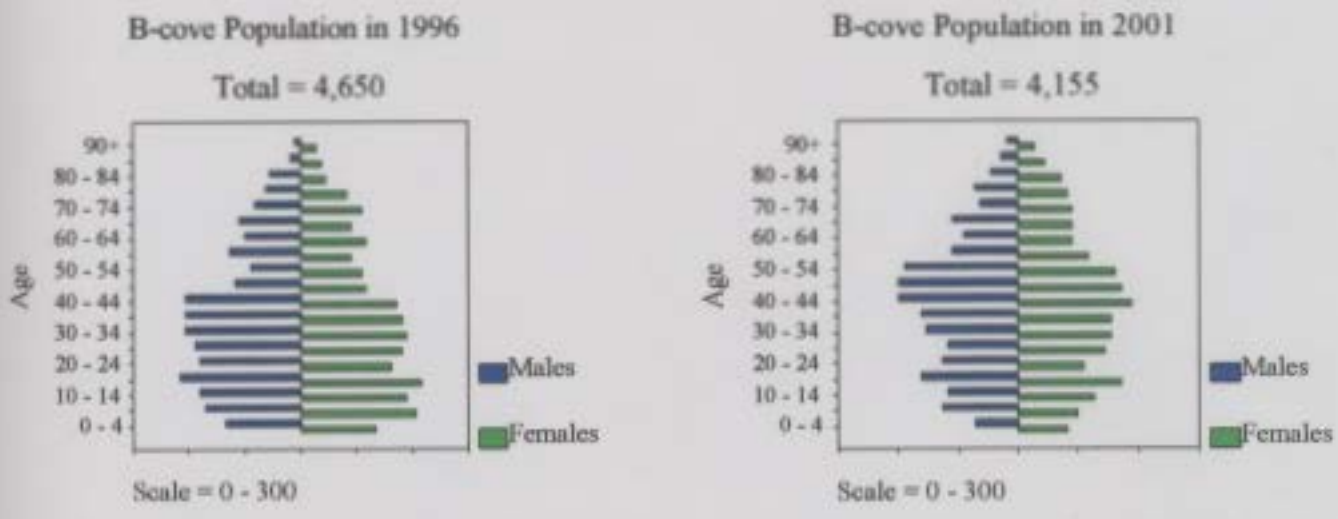


Figure 6. Population pyramids for B-cove from 1996 to 2001. (Source: *Community Accounts*)

and fish plant workers have remained without a source of employment. Some have increased production in the crab fishery in order to maintain some of the B-cove economy. As there is no other large industry in this community, others have relied on small businesses for income (Taylor, 2002).

Looking at Figure 7, the population of B-cove has declined throughout the period between 1992 and 1998. In 1992, the total population was 4840, while in 1998 it was 4492. The most significant decrease in the population occurred between 1995 and 1997 from 4770 residents to 4545 residents.

When comparing trends between the two communities of A-cove and B-cove (Figures 4 and 7) only B-cove had a constant decrease in the population throughout the moratorium. A-cove saw a decrease initially but then began to increase slowly after 1994. The difference in trends may be due to differences in economic recovery between the two communities as A-cove was able to turn to other industries following the moratorium while residents in B-cove had few alternate options for employment.

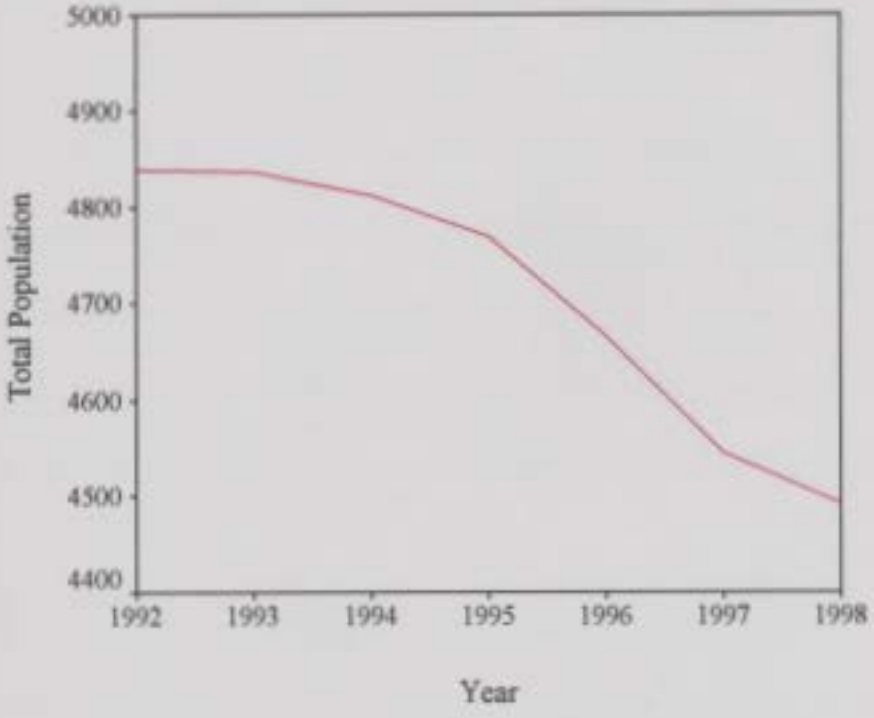


Figure 7. The population of B-cove between 1992 and 1998. (Source: *Community Accounts*)

Table 2 shows population and financial assistance data between 1992 and 1998 in B-cove. Again, data is displayed as both a rate and a percentage of the total population. Looking at this table (again note that some residents may have received more than one kind of assistance at the same time), the number of people in B-cove receiving SA has remained fairly constant throughout the moratorium (18-21%). However, this is a higher percentage of recipients than in A-cove. This difference between the two communities is most likely due to the low number of industries outside of the fishery in B-cove. A-cove, on the other hand, which has a lower percentage of SA recipients has had other sources of employment such as a large industrial plant and the nearby construction site. EI rates in B-cove have been lower than those in A-cove with a decline between 1992 (35%) and 1996 (20%) and then a slight increase in 1998 (25%). Percentages of NCARP and TAGS assistance in B-cove have been

similar to those in A-cove throughout the moratorium. B-cove also had the highest percentage of these types of assistance in 1994 (38%).

Total percent assistance of SA, EI, NCARP and TAGS has also been similar for both communities (Table 2). In 1994, both communities had a peak of 73% of the population receiving at least one type of assistance. However, B-cove also had an initial peak in 1992 at 73% of the population. Similar to A-cove, the number of residents receiving assistance in B-cove also dropped in 1997 (56%) and then had a slight increase in 1998 (59%).

Table 2: The rate and percent of the total population of social assistance, employment insurance, NCARP and TAGS in B-cove between 1992 and 1998 (Community Accounts, 2003)

| | **1992** | **1993** | **1994** | **1995** | **1996** | **1997** | **1998** |
|---|---|---|---|---|---|---|---|
| **Population** | 4840 | 4837 | 4812 | 4770 | 4667 | 4545 | 4492 |
| **Social Assistance (SA)** | 910 (19%) | 890 (18%) | 895 (19%) | 935 (20%) | 980 (21%) | 900 (20%) | 885 (20%) |
| **Employment Insurance (EI)** | 1675 (35%) | 1300 (27%) | 1055 (22%) | 950 (20%) | 955 (20%) | 975 (21%) | 1125 (25%) |
| **NCARP** | 925 (19%) | 875 (18%) | 650 (14%) | N/A | N/A | N/A | N/A |
| **TAGS** | N/A | N/A | 910 (19%) | 810 (17%) | 805 (17%) | 690 (15%) | 655 (15%) |
| **Total Assistance:** (SA, EI, NCARP and TAGS combined) | 3510 (73%) | 3065 (63%) | 3510 (73%) | 2695 (56%) | 2740 (59%) | 2565 (56%) | 2665 (59%) |

## 4.2 Future career interests

### 4.2.1 Career interests of grade four students

Tables 3-8 show the number and percent of students in each community that noted a preference for certain careers. These careers are divided into the categories of professional, nonprofessional (as described in the methodology), sports healthcare and other. Tables 3-4 describe students' first choices in careers, tables 5-6 describe their second choices and tables 7-8 describe their third choices.

As displayed in Table 3, the primary career choices of grade four students in each community were quite varied. All students in A-cove completed this question while three students in B-cove did not have a primary career choice in mind. In general, students in both communities were interested in professional careers, non-professional careers and sports. Students in B-cove seemed more inclined than those in A-cove to choose careers in health care (18.1%) such as medicine, nursing and technician work. Three students in A-cove indicated that they would like to be fishers when they grow older while none of the students in B-cove were interested in this career as their first choice. No students in either community wanted to work in a fish plant and no students in A-cove hoped to work in the large industrial plant.

When looking at the broader categories of careers (Table 4), the majority of students in B-cove chose professional careers (40.9%) while students in A-cove were more inclined towards non-professional careers (36.5%) and sports (36.5%). There was a significant difference between the two communities and the broader categories of students' first choices in future careers ($X^2 = 14.32$, $df = 1$, $p = 0.0060$).

Table 3: First choice of future careers for students in A-cove and B-cove

| **Category** | **Future Career (First Choice)** | **A-Cove (n, %) N=19** | **B-cove (n, %) N=22** | **Both Communities (n, %) N=41** |
|---|---|---|---|---|
| Professional | Police officer | 1 (5.3%) | 4 (18.2%) | 5 (12.2%) |
| | Journalist | 1 (5.3%) | 0 | 1 (2.4%) |
| | Archeologist | 0 | 1 (4.5%) | 1 (2.4%) |
| | Engineer | 1 (5.3%) | 0 | 1 (2.4%) |
| | Lawyer | 0 | 1 (4.5%) | 1 (2.4%) |
| | Clothing designer | 2 (10.5%) | 0 | 2 (4.9%) |
| | Teacher | 0 | 1 (4.5%) | 1 (2.4%) |
| | Computer technician | 0 | 1 (4.5%) | 1 (2.4%) |
| | Veterinarian | 0 | 1 (4.5%) | 1 (2.4%) |
| | ***Total*** | ***5 (26.4%)*** | ***9 (40.9%)*** | ***14 (34.1%)*** |
| | | | | |
| Non-professional | Fisher | 3 (15.8%) | 0 | 3 (7.3%) |
| | Truck driver | 2 (10.5%) | 0 | 2 (4.9%) |
| | Artist | 2 (10.5%) | 1 (4.5%) | 3 (7.3%) |
| | ***Total*** | ***7 (36.5%)*** | ***1 (4.5%)*** | ***8 (19.5%)*** |
| | | | | |
| Sports | Sports in general | 2 (10.5%) | 2 (9.1%) | 4 (9.8%) |
| | Figure skating coach | 2 (10.5%) | 0 | 2 (4.9%) |
| | Hockey | 3 (15.8%) | 2 (9.1%) | 5 (12.2%) |
| | ***Total*** | ***7 (36.8%)*** | ***4 (18.2%)*** | ***11 (26.8%)*** |
| | | | | |
| Health care | Physician | 0 | 1 (4.5%) | 1 (2.4%) |
| | Nurse | 0 | 2 (9.1%) | 2 (4.9%) |
| | X-ray technician | 0 | 1 (4.5%) | 1 (2.4%) |
| | ***Total*** | ***0*** | ***4 (18.1%)*** | ***4 (9.8%)*** |
| | | | | |
| Other | Millionaire | 0 | 1 (4.5%) | 1 (2.4%) |
| | No answer | 0 | 3 (13.6%) | 3 (7.3%) |
| | ***Total*** | ***0*** | ***4 (18.1%)*** | ***4 (9.8%)*** |

Table 4: Summary of the future career choices (first choice) of students in A-cove and B-cove

| **Future Career (First Choice)** | **A-cove (n, %) N=19** | **B-cove (n, %) N=22** | **Total (n, %) N=41** |
|---|---|---|---|
| Professional | 5 (26.4%) | 9 (40.9%) | 14 (34.1%) |
| Non-professional | 7 (36.5%) | 1 (4.5%) | 8 (19.5%) |
| Sports | 7 (36.8%) | 4 (18.2%) | 11 (26.8%) |
| Health care | 0 | 4 (18.1%) | 4 (9.8%) |
| Other | 0 | 4 (18.1%) | 4 (9.8%) |
| ***Total*** | ***19 (100%)*** | ***22 (100%)*** | ***41 (100%)*** |

Similar to their first choice in careers, students' second choices were varied across a number of employment areas (Table 5). However, these second choices were quite similar between the two communities and there was no relationship between area of residence and the broader categories of preferred careers ($X^2 = 0.915$, df = 1, p = 0.92). In A-cove, 36.8% of students' second choices in careers were professional, 30.3% were non-professional, 10.6% were in sports, 5.3% were in health care and 10.1 % preferred other types of careers. In B-cove, 31.8% selected professional careers, and slightly fewer students chose non-professional careers (18.0%). Similar to A-cove, 13.5% were interested in sports, 4.5% chose a career in health care and 31.8% chose other types of careers as their second choices (Table 6).

Two students in A-cove and one student in B-cove chose the fishery as their second choice of career. Again, no students wished to work in fish plants or in the large industrial plant. B-cove had six students who did not answer this question and A-cove had two students that did not have an answer.

Table 5: Second choice of future careers for students in A-cove and B-cove

| **Category** | **Future Career (Second Choice)** | **A-Cove (n, %) N=19** | **B-cove (n, %) N=22** | **Both Communities (n, %) N=41** |
|---|---|---|---|---|
| Professional | Clothing designer | 1 (5.3%) | 0 | 1 (2.4%) |
| | Teacher | 1 (5.3%) | 2 (9.1%) | 3 (7.3%) |
| | Veterinarian | 0 | 1 (4.5%) | 1 (2.4%) |
| | Police officer | 1 (5.3%) | 1 (4.5%) | 2 (4.9%) |
| | Journalist | 1 (5.3%) | 0 | 1 (2.4%) |
| | Beautician | 1 (5.3%) | 0 | 1 (2.4%) |
| | Zoologist | 0 | 1 (4.5%) | 1 (2.4%) |
| | Astronaut | 1 (5.3%) | 0 | 1 (2.4%) |
| | Firefighter | 0 | 1 (4.5%) | 1 (2.4%) |
| | Mechanic | 1 (5.3%) | 0 | 1 (2.4%) |
| | Singer | 0 | 1 (4.5%) | 1 (2.4%) |
| | ***Total*** | ***7 (36.8%)*** | ***7 (31.8%)*** | ***14 (34.1%)*** |
| | | | | |
| Non-professional | Fisher | 2 (10.5%) | 1 (4.5%) | 3 (7.3%) |
| | Truck driver | 0 | 1 (4.5%) | 1 (2.4%) |
| | Bus driver | 0 | 1 (4.5%) | 1 (2.4%) |
| | Store clerk | 2 (10.5%) | 1 (4.5%) | 3 (7.3%) |
| | Artist | 1 (5.3%) | 0 | 1 (2.4%) |
| | ***Total*** | ***5 (30.3%)*** | ***4 (18.0%)*** | ***9 (21.9%)*** |
| | | | | |
| Sports | Sports in general | 1 (5.3%) | 1 (4.5%) | 2 (4.9%) |
| | Figure skating coach | 0 | 1 (4.5%) | 1 (2.4%) |
| | Hockey | 1 (5.3%) | 1 (4.5%) | 2 (4.9%) |
| | ***Total*** | ***2 (10.6%)*** | ***3 (13.5%)*** | ***5 (12.2%)*** |
| | | | | |
| Health care | Physician | 1 (5.3%) | 1 (4.5%) | 2 (4.9%) |
| | ***Total*** | ***1 (5.3%)*** | ***1 (4.5%)*** | ***2 (4.9%)*** |
| | | | | |
| Other | Millionaire | 1 (5.3%) | 0 | 1 (2.4%) |
| | Cat breeder | 1 (5.3%) | 1 (4.5%) | 2 (4.9%) |
| | No answer | 2 (10.5%) | 6 (27.3%) | 8 (19.5%) |
| | ***Total*** | ***4 (10.1%)*** | ***7 (31.8%)*** | ***11 (26.9%)*** |

Table 6: Summary of the future career choices (second choice) of students in A-cove and B-cove

| **Future Career (Second Choice)** | **A-cove (n, %) N=19** | **B-cove (n, %) N=22** | **Total (n, %) N=41** |
|---|---|---|---|
| Professional | 7 (36.8%) | 7 (31.8%) | 14 (34.1%) |
| Non-professional | 5 (30.3%) | 4 (18.0%) | 9 (21.9%) |
| Sports | 2 (10.6%) | 3 (13.5%) | 5 (12.2%) |
| Health care | 1 (5.3%) | 1 (4.5%) | 2 (4.9%) |
| Other | 4 (10.1%) | 7 (31.8%) | 11 (26.9%) |
| ***Total*** | ***19 (100%)*** | ***22 (100%)*** | ***41 (100%)*** |

Students' third choices in careers were also quite varied as illustrated in Table 7 and Table 8 and more than one type of employment could be sited as a third choice. B-cove had a higher number of responses (40) from 22 students than A-cove (26) from 19 students when listing third choices in possible future careers. Students in both schools had a higher number of professional careers as their third choices (42.3% in A-cove and 55.0% in B-cove). The next most popular third choices in A-cove and B-cove were in non-professional careers with 34.6% and 22.5% respectively. There were no differences in third choices of careers between the two communities ($X^2 = 3.64$, df = 1, p = 0.46)

Again, B-cove was more inclined to select health care professions as their third choices and five students from this community considered teaching. Sports were a poplar future career choice in A-cove (15.4%) and B-cove (10.0%). Three students from each school chose fishing as a future career and two students in A-cove mentioned working in the fish plant as a future career.

Note: There may be multiple third choices per student, therefore all percentages and responses in Table 7 and Table 8 are out of a total number of responses per school rather than the number of students per school.

Table 7: Third choice of future careers for students in A-cove and B-cove

| **Category** | **Future Career (Third Choice)** | **A-Cove (n, %) N = 19 # Responses = 26** | **B-cove (n, %) N = 22 # Responses = 40** | **Both Communities (n, %) N = 41 # Response = 66** |
|---|---|---|---|---|
| Professional | Clothing designer | 1 (3.8%) | 0 | 1 (1.5%) |
| | Teacher | 1 (3.8%) | 5 (12.5%) | 6 (9.0%) |
| | Veterinarian | 0 | 3 (11.5%) | 3 (4.5%) |
| | Police officer | 0 | 2 (5.0%) | 2 (3.0%) |
| | Singer | 1 (3.8%) | 0 | 1 (1.5%) |
| | Astronaut | 0 | 1 (2.5%) | 1 (1.5%) |
| | Firefighter | 0 | 3 (11.5%) | 3 (4.5%) |
| | Mechanic | 2 (7.7%) | 0 | 2 (3.0%) |
| | Interior decorator | 1 (3.8%) | 0 | 1 (1.5%) |
| | Hair dresser | 1 (3.8%) | 0 | 1 (1.5%) |
| | Librarian | 1 (3.8%) | 0 | 1 (1.5%) |
| | Computer technician | 1 (3.8%) | 3 (11.5%) | 4 (6.0%) |
| | Pilot | 0 | 3 (11.5%) | 3 (4.5%) |
| | Oceanographer | 0 | 1 (2.5%) | 1 (1.5%) |
| | Carpenter | 2 (7.7%) | 1 (2.5%) | 3 (4.5%) |
| | ***Total*** | ***11 (42.3%)*** | ***22 (55.0%)*** | ***33 (50.0%)*** |
| | | | | |
| Non-professional | Fisher | 3 (11.5%) | 3 (11.5%) | 6 (9.0%) |
| | Fish plant worker | 2 (7.7%) | 0 | 2 (3.0%) |
| | Truck driver | 1 (3.8%) | 0 | 1 (1.5%) |
| | Bus driver | 0 | 1 (2.5%) | 1 (1.5%) |
| | Store clerk | 0 | 2 (5.0%) | 2 (3.0%) |
| | Artist | 0 | 3 (7.5%) | 3 (4.5%) |
| | Baker/cook | 3 (11.5%) | 0 | 3 (4.5%) |
| | ***Total*** | ***9 (34.6%)*** | ***9 (22.5%)*** | ***18 (27.3%)*** |
| | | | | |
| Sports | Sports in general | 4 | 3 (11.5%) | 7 (10.6%) |
| | Figure skating coach | 0 | 1 (2.5%) | 1 (1.5%) |
| | ***Total*** | ***4 (15.4%)*** | ***4 (10.0%)*** | ***8 (12.1%)*** |
| | | | | |
| Health care | Physician | 0 | 1 (2.5%) | 1 (1.5%) |
| | Nurse | 0 | 2 (5.0%) | 2 (3.0%) |
| | Dentist | 0 | 1 (2.5%) | 1 (1.5%) |
| | ***Total*** | ***0*** | ***4 (10.0%)*** | ***4 (6.0%)*** |
| | | | | |
| Other | Stunt person | 2 (7.7%) | 1 (2.5%) | 3 (4.5%) |
| | ***Total*** | ***2 (7.7%)*** | ***1 (2.5%)*** | ***3 (4.5%)*** |

Table 8: Summary of the future career choices (third choice) of students in A-cove and B-cove

| **Future Career (Third Choice)** | **A-cove (n, %) N=19 # Responses = 26** | **B-cove (n, %) N=22 # Responses = 40** | **Total (n, %) N=41 # Responses = 66** |
|---|---|---|---|
| Professional | 11 (42.3%) | 22 (55.0%) | 33 (50.0%) |
| Non-professional | 9 (34.6%) | 9 (22.5%) | 18 (27.3 %) |
| Sports | 4 (15.4%) | 4 (10.0%) | 8 (12.1%) |
| Health care | 0 | 4 (10.0%) | 4 (6.0%) |
| Other | 2 (7.7%) | 1 (2.5%) | 3 (4.5%) |
| ***Total*** | ***29 (100%)*** | ***40 (100%)*** | ***66 (100%)*** |

### 4.2.2 Sources of information on career interests

Descriptions of results looking at students' sources of information when considering future careers can be found in Tables 9-10. These tables show the number and percent of students who cited each source as important when acquiring information on future careers. Each source was categorized as either a relative, non-relative, personal preference or other. There were significant differences between the two communities ($X^2 = 11.00$, df = 1, p = 0.012). In A-cove, the majority of students (52.6%) chose careers based on personal preferences. The second most common source (26.3%) of information in this community was from non-relative resources and more specifically, television. Only two students (10.5%) mentioned relatives as a source of information.

In B-cove 40.9% of students cited relatives as their primary source of information on future careers. Relatives included family members such as their mother, father, aunt or uncle. Non-relatives were the second most common source (27.3%) of information in this community. Unlike those in A-cove, few students (9.1%) in B-cove noted personal preference as their reason for indicating a certain future career.

Table 9: Students' source of information for the idea of their first choice of future careers

| **Category** | **Source of information** | **A-Cove (n, %) N = 19** | **B-cove (n, %) N = 22** | **Both Communities (n, %) N = 41** |
|---|---|---|---|---|
| Relative | Mom or dad | 1 (5.3%) | 7 (31.8%) | 8 (19.5%) |
| | Uncle or aunt | 1 (5.3%) | 2 (9.1%) | 3 (7.3%) |
| | ***Total*** | ***2 (10.5%)*** | ***9 (40.9%)*** | ***11 (26.8%)*** |
| | | | | |
| Non-relative | Friend | 1 (5.3%) | 0 | 1 (2.4%) |
| | School | 1 (5.3%) | 0 | 1 (2.4%) |
| | Television | 3 (15.8%) | 6 (27.3%) | 9 (22.0%) |
| | ***Total*** | ***5 (26.3%)*** | ***6 (27.3%)*** | ***11 (26.8%)*** |
| | | | | |
| Personal preference | Like to do it | 9 (47.4%) | 1 (4.5%) | 10 (24.4%) |
| | Just thought of it | 1 (5.3%) | 1 (4.5%) | 2 (4.9%) |
| | ***Total*** | ***10 (52.6%)*** | ***2 (9.1%)*** | ***12 (29.3%)*** |
| | | | | |
| Other | No answer | 2 (10.5%) | 5 (22.7%) | 7 (17.1%) |
| | ***Total*** | ***2 (10.5%)*** | ***5 (22.7%)*** | ***7 (17.1%)*** |

Table 10: A summary of students' source of information for the idea of their first choice of future careers

| **Source of Information** | **A-Cove (n, %) N = 19** | **B-cove (n, %) N = 22** | **Total (n, %) N = 41** |
|---|---|---|---|
| Relative | 2 (10.5%) | 9 (40.9%) | 11 (26.8%) |
| Non-relative | 5 (26.3%) | 6 (27.3%) | 11 (26.8%) |
| Personal preference | 10 (52.6%) | 2 (9.1%) | 12 (29.3%) |
| Other | 2 (10.5%) | 5 (22.7%) | 7 (17.1%) |
| ***Total*** | ***19 (100%)*** | ***22 (100%)*** | ***41 (100%)*** |

### 4.2.3 Students' ratings of various careers

The fourth question on the survey asked students to rate various career-oriented activities according to their liking of each one (Appendix A). For the purposes of this study these ratings were scored as one, two or three for "would not like", "like a little" or "like a lot" respectively. The activities were then grouped into professional and non-professional categories as a mean of the one, two and three ratings.

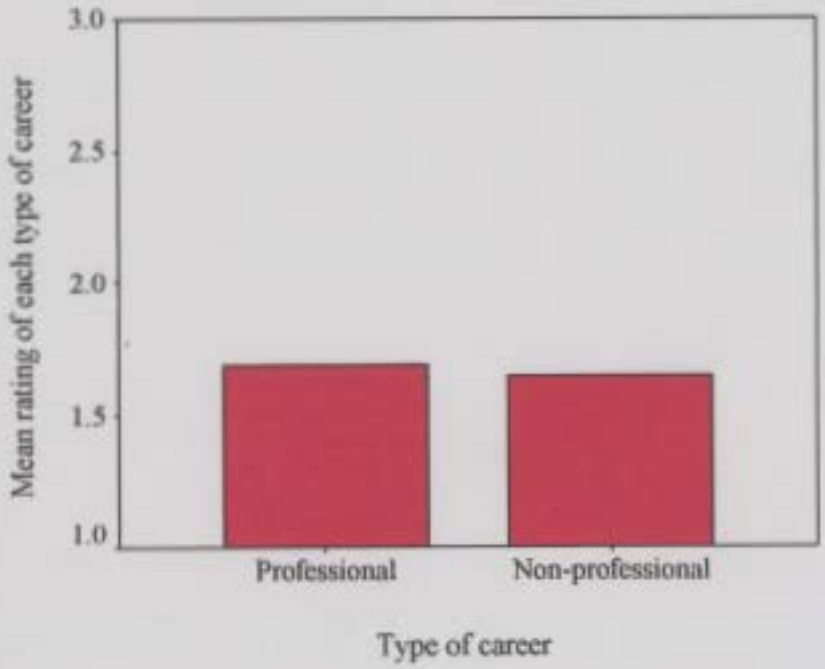


Figure 8. Mean ratings from students in A-cove of professional and non-professional activities as either "would not like" (1), "like a little" (2) or "like a lot" (3).

As Figure 8 demonstrates, the mean rating of professional and non-professional categories in A-cove were similar. The mean rating of professional activities was 1.68 and of non-professional it was 1.65 (Table 11). There were no significant differences between these two categories ($t = 0.62$, $p = 0.55$).

Table 11: Mean and standard deviation of the ratings of professional and non-professional activities from students in A-cove.

| **Category** | **Mean rating** | **Standard deviation** |
|---|---|---|
| Professional | 1.68 | .39 |
| Non-professional | 1.65 | .37 |

Table 12 shows a more detailed breakdown of A-cove students' ratings of the various activities. The number of students rating each activity as either "like a lot", "like a little" or "would not like" is displayed. The majority of students in this community did not rate either professional or non-professional activities very favorably. With regard to professional activities, 54% of students responded with "would not like" and only 17% responded with "like a lot". Similarly, with non-professional activities, 54% of students responded with "would not like" and 19% responded with "like a lot".

Professional activities that were considered to be favorable by students in this community were "play a musical instrument" and "use a computer". Non-professional activities that were viewed positively included "fix a car", "look after small children" and "bake cakes". In this community, 26% of the children noted "be a fisher" as "like a lot" and 21% noted "work in a fish plant" as a "like a lot". Therefore, fishing related activities were viewed positively by some students in A-cove.

Table12: The number of student's in A-cove classifying various careers as either "like a lot", "like a little" or "would not like".

| | | **Number of students responding** | | | |
|---|---|---|---|---|---|
| **Category** | **Career Description** | **"Like a lot"** (n, %) | **"Like a little"** (n, %) | **"Would not like"** (n, %) | **Total** (N) |
| Professional | Pilot a plane | 0 (0%) | 9 (47%) | 10 (53%) | 19 |
| | Design rocket ships | 2 (11%) | 6 (32%) | 11 (58%) | 19 |
| | Build furniture | 2 (11%) | 6 (32%) | 11 (58%) | 19 |
| | Read books | 3 (16%) | 4 (21%) | 12 (63%) | 19 |
| | Operate on a sick person | 2 (11%) | 1 (5%) | 16 (84%) | 19 |
| | Be a school teacher | 3 (16%) | 6 (32%) | 10 (53%) | 19 |
| | Play a musical instrument | 7 (37%) | 8 (42%) | 4 (21%) | 19 |
| | Use a computer | 7 (37%) | 8 (42%) | 4 (21%) | 19 |
| | ***Total*** | ***26 (17%)*** | ***48 (32%)*** | ***78 (51%)*** | ***152*** |
| | | | | | |
| Non-professional | Sell things in a store | 2 (11%) | 6 (32%) | 11 (58%) | 19 |
| | Be a fisher | 5 (26%) | 7 (37%) | 7 (37%) | 19 |
| | Watch for forest fires | 1 (5%) | 5 (26%) | 13 (68%) | 19 |
| | Repair a toaster | 2 (11%) | 2 (11%) | 15 (79%) | 19 |
| | Type letters for someone | 3 (16%) | 5 (26%) | 11 (58%) | 19 |
| | Fix a car | 5 (26%) | 4 (21%) | 10 (53%) | 19 |
| | Look after small children | 5 (26%) | 7 (37%) | 7 (37%) | 19 |
| | Work in a fish plant | 4 (21%) | 5 (26%) | 10 (53%) | 19 |
| | Bake cakes | 6 (32%) | 4 (21%) | 9 (47%) | 19 |
| | ***Total*** | ***33 (19%)*** | ***45 (26%)*** | ***93 (54%)*** | ***171*** |

When comparing professional and non-professional categories, the results in B-cove were different than those in A-cove. As outlined in Figure 9, the mean ratings of professional and non-professional activities in B-cove did show a significant difference ($t = 2.52$, $p = 0.020$). The mean rating for professional activities was 1.98 and for non-professional the mean was 1.75 (Table 13).

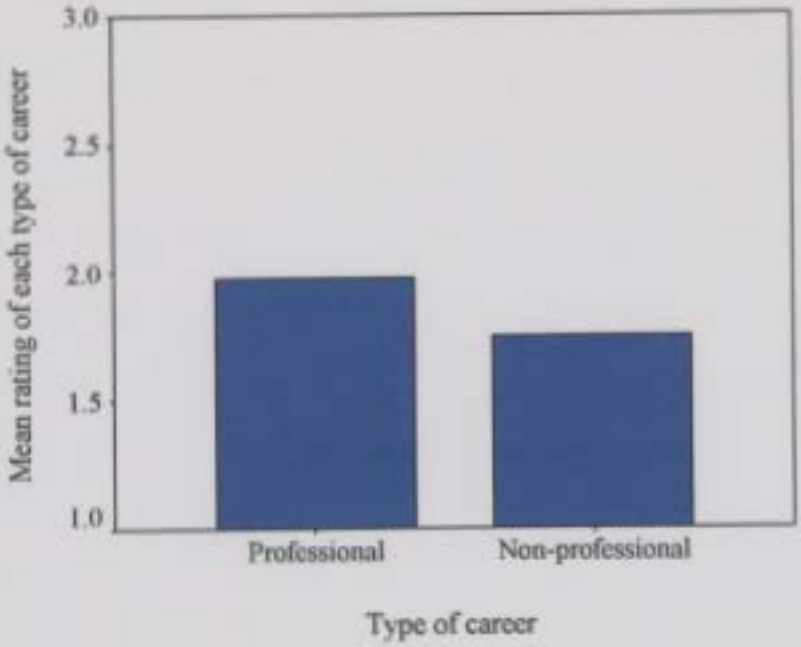


Figure 9. Mean ratings from students in B-cove of professional and non-professional activities as either "would not like" (1), "like a little" (2) or "like a lot" (3).

Table 13: Mean and standard deviation of the ratings of professional and non-professional activities from students in B-cove.

| Category | Mean rating | Standard deviation |
|---|---|---|
| Professional | 1.98 | .44 |
| Non-professional | 1.75 | .34 |

Table 14 shows B-cove students' ratings of each of the professional and non-professional sub-categories. Again, the number of students rating each activity as either "like a lot", "like a little" or "would not like" is displayed. Thirty five percent of students in B-cove rated professional activities as "like a lot" while only 25% of students in this community rated non-professional activities this favorably. Within the category of

professional items, the most favorably rated were "read books", "be a school teacher", "play a musical instrument" and "use a computer". For non-professional activities, the most favorable were "type letters for someone" and "look after small children". The number of students rating fishing positively was similar to findings in A-cove, with 27% of students noting "like a lot" for this activity. However, students in B-cove did not rate "work in a fish plant" positively as only 5% noted this activity as a "like a lot" and 72% noted it as "would not like".

Table 14: The number of student's in B-cove classifying various careers as either "like a lot", "like a little" or "would not like".

| | | **Number of students responding** | | | |
|---|---|---|---|---|---|
| **Category** | **Career Description** | **"Like a lot"** | **"Like a little"** | **"Would not like"** | **Total** |
| Professional | Pilot a plane | 3 (14%) | 8 (36%) | 11 (50%) | 22 |
| | Design rocket ships | 6 (27%) | 6 (27%) | 10 (45%) | 22 |
| | Build furniture | 4 (18%) | 6 (27%) | 12 (55%) | 22 |
| | Read books | 10 (45%) | 7 (32%) | 5 (23%) | 22 |
| | Operate on a sick person | 6 (27%) | 7 (32%) | 9 (41%) | 22 |
| | Be a school teacher | 12 (55%) | 2 (9%) | 8 (36%) | 22 |
| | Play a musical instrument | 10 (45%) | 6 (27%) | 6 (27%) | 22 |
| | Use a computer | 11 (50%) | 6 (27%) | 5 (23%) | 22 |
| | ***Total*** | ***62 (35%)*** | ***48 (27%)*** | ***66 (38%)*** | ***176*** |
| | | | | | |
| Non-professional | Sell things in a store | 3 (14%) | 12 (55%) | 7 (32%) | 22 |
| | Be a fisher | 6 (27%) | 8 (36%) | 8 (36%) | 22 |
| | Watch for forest fires | 5 (23%) | 6 (27%) | 11 (50%) | 22 |
| | Repair a toaster | 1 (5%) | 1 (5%) | 20 (91%) | 22 |
| | Type letters for someone | 9 (41%) | 7 (32%) | 6 (27%) | 22 |
| | Fix a car | 6 (27%) | 4 (185) | 12 (55%) | 22 |
| | Look after small children | 12 (55%) | 3 (14%) | 7 (32%) | 22 |
| | Work in a fish plant | 1 (5%) | 5 (23%) | 16 (72%) | 22 |
| | Bake cakes | 6 (27%) | 5 (23%) | 11 (50%) | 22 |
| | ***Total*** | ***49 (25%)*** | ***51 (26%)*** | ***98 (49%)*** | ***198*** |

When comparing the two communities there are both similarities and differences in students' rating of various career-related activities. Table 15 summarizes the means for each community with respect to professional activities. The mean of 1.98 for B-cove is significantly higher than the mean of 1.68. This was a significant difference between the two communities ($t = -2.25$, $p = 0.03$). In this sense, students in B-cove rated professional careers more favorably than those in A-cove.

Table 15: Mean and standard deviation of professional careers in A-cove and B-cove.

| **Community** | **Mean rating** | **Standard deviation** |
|---|---|---|
| A-cove | 1.68 | .39 |
| B-cove | 1.98 | .44 |

Figure 10 summarizes the means of each professional activity in both communities. Again, these means are from the ratings of "would not like" (1), "like a little" (2) and "like a lot" (3). Activities that were rated similarly in A-cove and in B-cove included "use a computer", "play a musical instrument" and "build furniture". A large difference in ratings was seen in the activities of "read books", "operate on a sick person" and "be a school teacher". Students in B-cove rated each of these three activities more favorably than students in A-cove.

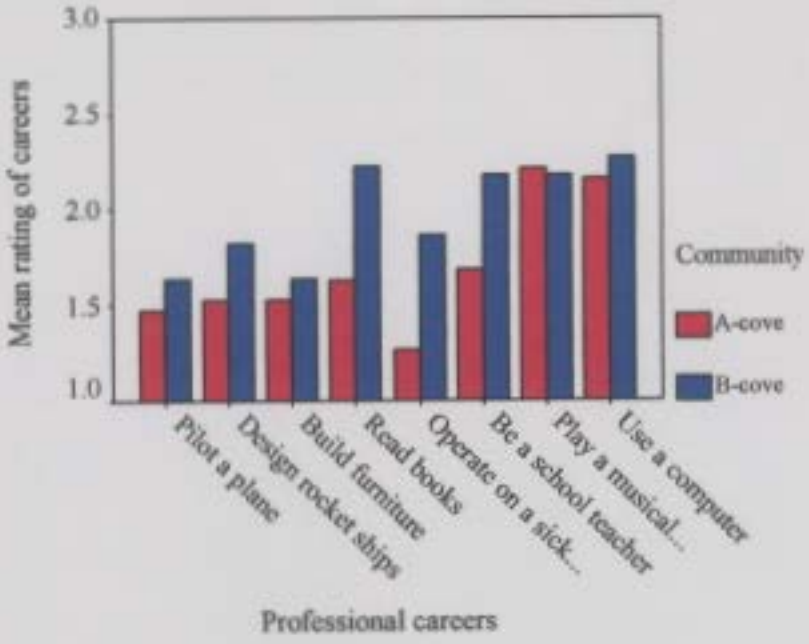


Figure 10. A comparison of mean ratings of each professional activity in A-cove and B-cove.

Non-professional activities were rated similarly between the two communities (Table 16). In A-cove, the mean rating for professional activities was 1.65, while in B-cove this mean was slightly higher at 1.75. These means were not significantly different ($t = -0.93$, $p = 0.36$)

Table 16: Mean and standard deviation of non-professional careers in A-cove and B-cove.

| **Community** | **Mean rating** | **Standard deviation** |
|---|---|---|
| A-cove | 1.65 | .37 |
| B-cove | 1.75 | .34 |

Figure 11 shows the mean ratings for each non-professional activity. Students rated "fix a car" and "bake cakes" similarly. Students in B-cove had more favorable ratings for "sell things in a store", "watch for forest fires", "type letters for someone" and "look after

small children". Fishing was rating similarly in both A-cove and B-cove, however, "work in a fish plant" was rated more favorably in A-cove.

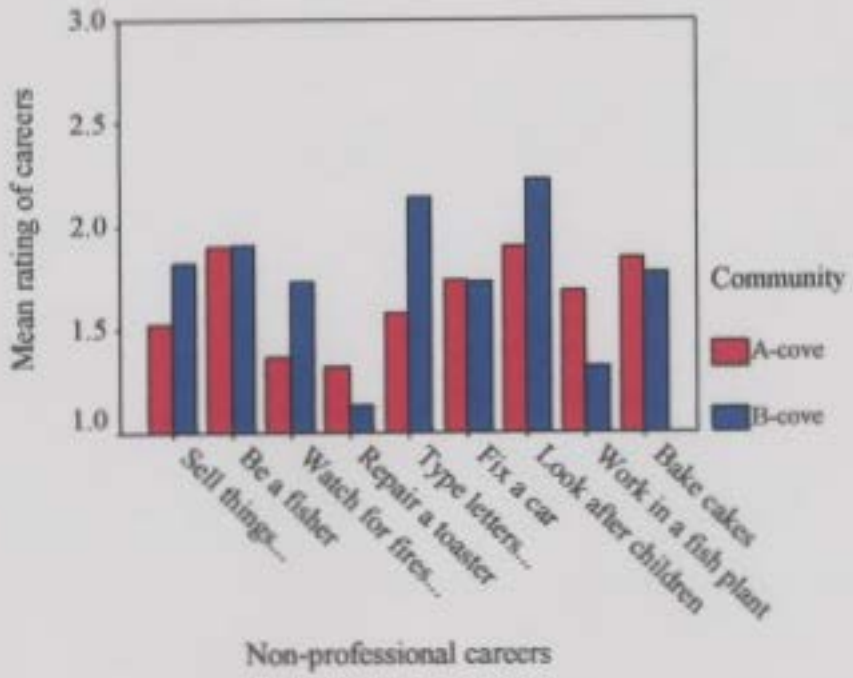


Figure 11. Figure 10: A comparison of mean ratings of each non-professional activity in A-cove and B-cove.

**4.3 Community perceptions:**

**4.3.1 Careers in the community**

When discussing careers within the community all focus groups from both A-cove and B-cove listed fishing and working in the fish plant before any other career. It seems that the fishery has played an important role in both communities despite the 1992 moratorium. A-cove also mentioned the nearby large industrial plant as a primary source of work within the community. Working in stores was another popular job in both communities. Other careers that were mentioned included police officers, fire fighters and nurses. In A-cove,

working in the fishery and the large industrial plant were seen as undesirable because both were thought to be dirty and unpleasant. As one boy pointed out:

> If you go to the middle of the fish plant it stinks and if you go to where all the fish are, it really stinks!

A girl exclaimed:

> I wouldn't like to work at the fish plant because it stinks and wouldn't like to work at the [large industrial plant] because it's just boring!

Apart from being unpleasant, the fish plant and the large industrial plant in A-cove were also considered to be dangerous. With regard to the fish plant, one boy said:

> I wouldn't want to work at the fish plant because a lot of people get hurt down there...

Another boy agreed that the fish plant was dangerous and added:

> I wouldn't like to go to the [large industrial plant] because the towers are way too high.

When talking about the large industrial plant, students in A-cove demonstrated knowledge of the positive and negative financial aspects of this industry within their community. Some students felt that it made lots of money and a boy in A-cove noted that:

> It's [large industrial plant] good and bad. It pollutes the air and it makes money.

Another boy disagreed and thought that it was not worth working there due to low pay:

> I wouldn't like to work at the [large industrial plant] because you don't make too much money there. My dad's been there and he hasn't been making much money.

Students in B-cove had different reasons for their desire to work in industries outside of the fishery. They felt that the fishery was not a possible future career for them because it did not provide enough employment opportunities. A boy in B-cove said:

> There are no jobs here, because of the fish and they aren't offering any more jobs.

Another boy agreed that it was difficult to find a job within the fishery and repeated the thoughts of others:

> But they can't get any more people in there [fishery] because there's hardly any fish left.

### 4.3.2 Recreation in the community

As students in both communities described various recreational activities within their regions, it became apparent that there was a focus on outdoor activities such as boating, swimming, walking, camping, biking and playing sports. Indoor recreational activities were mentioned only once in each school and included playing video games, talking on the phone and playing cards. A boy in B-cove summarized the thoughts of many students when he said:

> We go camping a lot and we swim a lot and we go for walks sometimes and go fishing. And for kids there's a lot of sports and play games and some people play with dogs and go over to the playground.

Fishing was discussed as a recreational activity in both communities, however, it was more dominant in A-cove. Adults, in particular were thought to spend a fair amount of their spare time fishing. As one boy talked about recreation in this community, he noted that:

> We go for walks and my mom goes out fishing and my dad goes out fishing and I play hockey.

### 4.3.3 The moratorium and the current state of the fishery

Students in A-cove and B-cove did not understand the term "fisheries moratorium". Following a brief hint from the investigator that it might have something to do with people that had to stop fishing, students immediately responded with detailed knowledge of the state of the fishery. It seems that while they did not understand the exact terminology, they were aware of the impact of the moratorium within their communities. In both schools students mentioned that the reason for stopping the fishery was because of a decrease in the cod stocks. A boy in A-cove exclaimed:

> They had to stop fishing because there was less fish in the ocean!

A girl in this community agreed and added:

> Oh, because the fish were gone. My pop says that we have to wait for them to come back.

In B-cove, the responses were similar and a boy quietly summarized the views of others:

> Because the codfish are getting scarce.

In general, students also knew some of the reasons for this decrease in the cod stocks. In some instances, particularly in B-cove, this knowledge was detailed and had been discussed within the family especially with grandparents. In B-cove a boy pointed out:

> Yea, there's places where the fish come in and out and if they can't come in they can't lay their eggs. And if they all dig it from one place there won't be any new ones.

Knowledge of fishing limits imposed by the moratorium was also expressed, and that under certain conditions fishing was illegal. The aspect of police controlling the fishery was particularly intriguing for students and they were eager to share stories about residents within the community that had broken the fishing laws. In A-cove, a girl said:

> Yea I know what it is. It's when you can only catch big fish and you can't catch all of them.

Another girl added:

> Only allowed to catch 30 fish.

In B-cove, the students came up with more specific details of the fishing limits and regulations. One boy considered some friends that had ignored these regulations:

> I know some people who went up to the point and caught some really small fish, and they shouldn't because they're supposed to put them back.

Another boy knew that some residents in this area were fishing off the shoreline and found it humorous that they were not caught by the police:

> You're going to get caught poaching if you come in too close to land. So they go to the banks on the cape and they just take a rod and go fishing and get cod!

#### 4.3.4 Adolescents and post high school graduation

The topic of adolescents entering the work force upon high school graduation brought a different response from the two communities. In A-cove, it seemed as though the career paths of adolescents were somewhat divided. Some stay in the community and work in the fish plant, in local stores or remain unemployed while others leave in order to attend university. One girl noted that:

> They [adolescents] just stay here and drive around all day.

Another girl knew someone who had recently become employed in the fish plant and saw it as a natural succession following high school graduation:

> My babysitter works at the fish plant because she just graduated.

In B-cove, the employment situation for high school graduates was quite different. It appeared that adolescents and young adults had no choice but to leave the community in search of post-secondary education or work. Some adolescents hoped to find work in the fishery in another community. During the focus group interviews, students were aware that they may have to move away from the community upon high school graduation. A girl in this community said:

> Lots of people are going away....to fish.....to get jobs.

A boy added to this comment by noting:

> There's not very many jobs around here.

As the students in B-cove thought about adolescents and their decisions following high school graduation, one boy said:

> They go to university and move. Because to get a good education.

### 4.3.5 Leaving the community

When asked whether they would like to stay in the community in the future, the majority of students in both communities hoped to move away. However, their motivation for moving was slightly different. Students in A-cove wanted to move for adventure and because they were bored in their community and as one girl commented:

> Well, I would like to move out in St. John's or somewhere not in Newfoundland because I've lived here all my life and I want to explore.

Similarly a boy in A-cove noted a lack of stores in the area as a good reason to move to a larger city:

> I would kind of like to move somewhere else because we don't have any stores or anything and we have to travel to get anything. I'd rather live in St. John's or something like that....

In B-cove, the motivation for moving from the community was more of a financial necessity as students felt that it would be the only way to obtain employment in the future. Going to university was also a primary reason to move following high school graduation. Often the future career plans of students were quite detailed and as one boy noted:

> They make [money] so much in St. John's and they makes nothing down here.

Another boy nodded in agreement and commented on the logistics of moving to St. John's for university:

> St. John's, because they have a university and it's the nearest place to B-cove that has a university. Besides I can come home on the weekends! You would have to live there because you can't go from B-cove every day.

In both A-cove and B-cove, the primary reason for wanting to stay in the community was due to family ties. Students often expressed the importance of remaining close to their families and sometimes they would consider moving to another community only if they had family there. In B-cove, a girl mentioned moving to another area:

> Well, I would stay in Newfoundland, but I would move to Deer Lake because all of my pop's side live there. My mother's side.

However, some students disagreed in this community and as one boy pointed out:

> I want to stay here because most of my family is here.

In A-cove the reactions were similar and many seemed undecided depending on the location of their family. One girl considered two options:

> Maybe I'd like to go to Clarenville. Or maybe stay here, my family is here.

It is also important to keep in mind that some of the students had fairly unrealistic ideas concerning their future careers. Moving away from the community was only seen as glamorous and fun. Others did not understand the topic of conversation and focused on

places that they would like to visit. Hockey was an important factor for some when considering the decision to move and as one boy noted:

I'd like to move to Toronto because the Toronto Maple Leafs play there.

Glamorous reasons for moving were also brought up in B-cove and as one boy exclaimed:

Oh yea, Hollywood! I want to go to Hollywood to make more money.

Another boy in B-cove was caught up in dreams of dirt bike racing and this sport was the deciding factor when considering a move away from the community:

Colorado, there's lots of dirt bike races in Colorado.

### 4.3.6 Pursuing post secondary education

When discussing post secondary education, students from both schools responded similarly. The majority of students hoped to go to university in St. John's and acknowledged the importance of a good education when looking for work. Students in B-cove were slightly more enthusiastic about pursuing a higher education and one boy commented:

> Well I'd like to go because then you can get a good education and then get jobs.

Another boy agreed and seemed enthusiastic about attending college:

I want to go because then there's more jobs you can go to if you go to college.

In both communities, financial restrictions were mentioned as a barrier to attending post secondary education. A boy in B-cove mentioned both grades and money as considerations:

> Yea, but I don't know if I can go. Because not enough money or not enough grades, then I won't go.

A girl in A-cove noted that her parents were divided on the prospect of post-secondary education:

> My mom wants me to go to college and my father doesn't want me to. Too much money.

### 4.3.7 Parents' influence

As students talked about future careers and whether they would like to move away from the community, there was an underlying theme of parental influence. Most students felt that their parents did not influence their future goals and that they were free to choose their own career path as one boy in B-cove commented:

> Mine [parents] said live your life as you do.

Similarly in A-cove a girl noted:

> My mom and dad say that I can be whatever I'd like to be.

Others felt that their parents had a certain career goal in mind for their children. This parental influence seemed to differ between the two communities. In A-cove, parental advice towards students was more oriented towards making money and having a job rather than attending post secondary education. A boy in A-cove said:

> Mine [parents] want me to following their footsteps, but I'm not going out in a boat at 4:00 in the morning and I'm not going to work at the fish plant....

Another boy in this community had received different advice from his parents:

> My mom works in the fish plant and she doesn't really like it and she says, "I don't care what you do when you grow up but don't be a fish plant worker".

In B-cove, students were much more inclined towards leaving the community in order to pursue further education upon high school graduation. Their parents seemed to support this future path and as one girl described:

My mom tells me when I grow up to get my education.

As others agreed with this comment, another girl spoke up about her older brother's advice:

My brother says get an education then get a job.

Findings from the six focus groups indicated both similarities and differences between students in the two communities. In general, careers in the fishery were not seen as a desirable and in A-cove, the large industrial plant was also not an attractive future career option. There was an emphasis on outdoor recreation in both communities and parents were thought to enjoy fishing in their spare time. Students were knowledgeable about the fisheries moratorium and the limits on fishing within their communities. In B-cove, students felt that there was no future in the fishery in terms of employment, and students in both communities hoped to leave in search of education and career opportunities. From children's reports it appeared that the majority of adolescents in B-cove were moving from the community, while adolescents in A-cove were divided in their choice to stay or move in search of education and employment. These trends were similar for the students being interviewed as they described their future goals. In B-cove, students felt that they would have to move in search of education and work, while those in A-cove were more inclined to envision future moves in search of excitement. Students in A-cove seemed less worried about finding work in the future and felt that they would have a choice of either working in their community or moving away. Parental influence on future career decisions was also viewed differently in the two communities. Parents in B-cove were viewed as highly supportive of pursuing an education and leaving the community while those in A-cove were divided on the matter.

**4.4 Academic achievement:**

Figures 12 to 14 show grade six CTBS percentile scores between 1988 and 1991, before the onset of the moratorium. It should be noted that grade four students did not complete the CTBS during this time period, however, the grade six scores give an indication of test results prior to the moratorium. Exact scores for this grade can be found in Appendix H. Results in A-cove showed fairly consistent scores between 1985 and 1988 with vocabulary and math decreasing slightly, language and reading remaining constant and work study increasing slightly. Between 1988 and 1991 all tests showed a decrease in percentile scores. Reading remained the highest score throughout the time period and vocabulary was the lowest.

In B-cove, all tests showed an increase in scores between 1985 and 1988. However, between 1988 and 1991, only language, work study and math showed improvements. Reading remained the same and vocabulary decreased. Similar to A-cove, reading was generally the highest score throughout this time period while vocabulary was the lowest.

Provincially, there were only slight changes, both positively and negatively in test scores between1985 and 1988. The changes between 1988 and 1991 showed a drop in percentile scores in all tests. The most dramatic decreases were seen in vocabulary and math while language and work study dropped slightly. Again, reading demonstrated the highest percentiles and vocabulary the lowest, although all tests were generally within the same range of percentile scores.

Looking at the CTBS scores of all three regions, it appears that provincial results were generally higher than the two communities in 1985. B-cove showed the most increases between 1985 and 1988 and also the most dramatic improvements between 1988 and 1991.

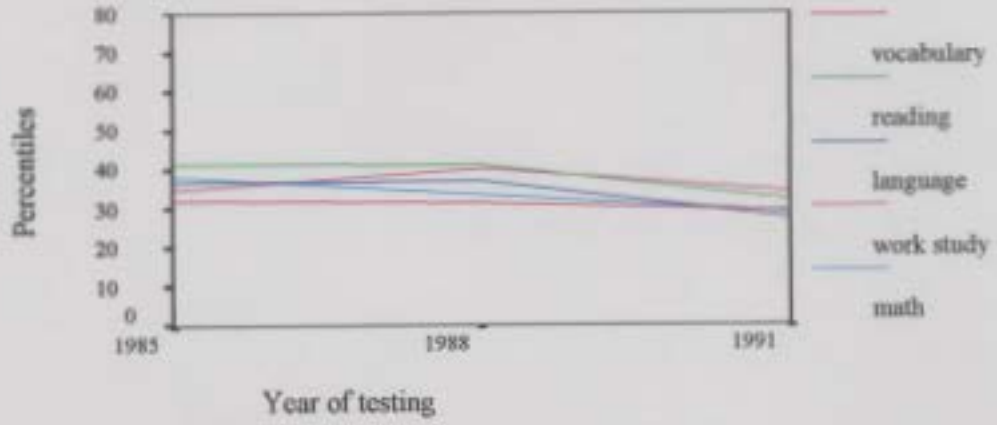


Figure 12. Grade six CTBS percentile scores in A-cove between 1985 and 1991

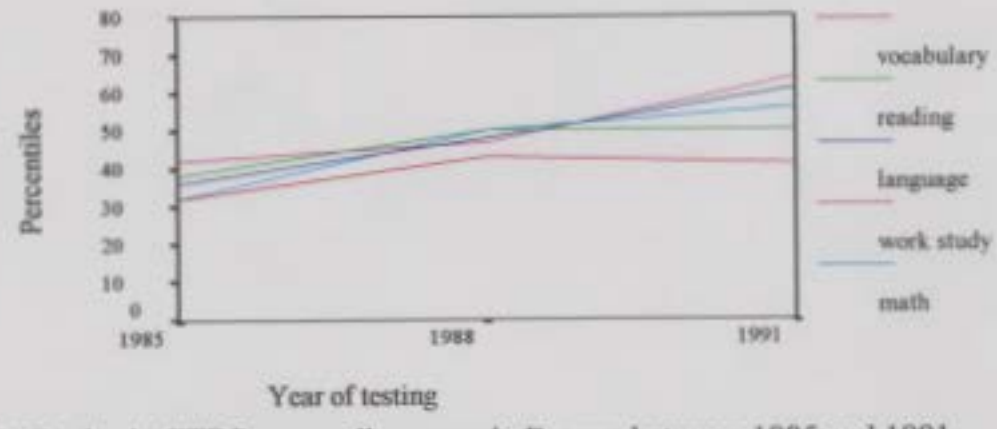


Figure 13. Grade six CTBS percentile scores in B-cove between 1985 and 1991

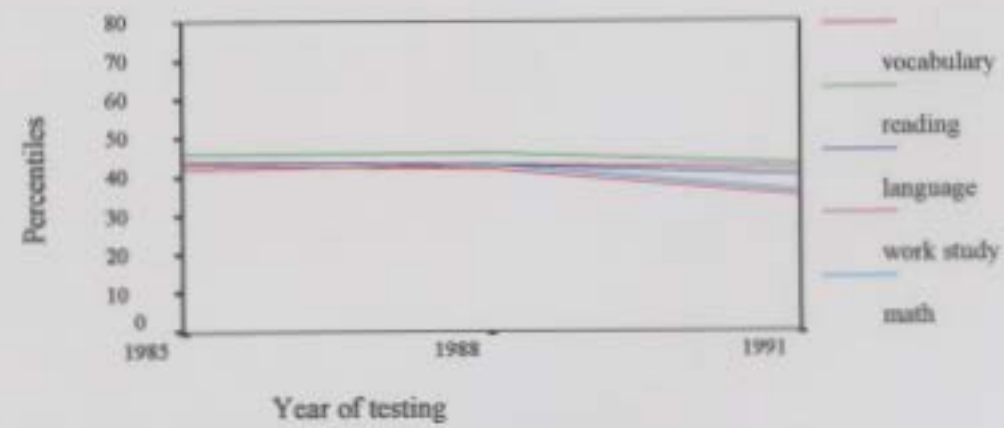


Figure 14. Grade six CTBS percentile scores provincially between 1985 and 1991

As a mean of the five sub-tests of the CTBS, composite scores provide a summary of student's performance in any given year (Figure 15). Looking at grade six results between 1985 and 1991, one can see that provincial scores were highest in 1985 then dropped by 1991. B-cove showed the most improvement in test results while A-cove improved slightly between 1985 and 1988 and then dropped by 1991.

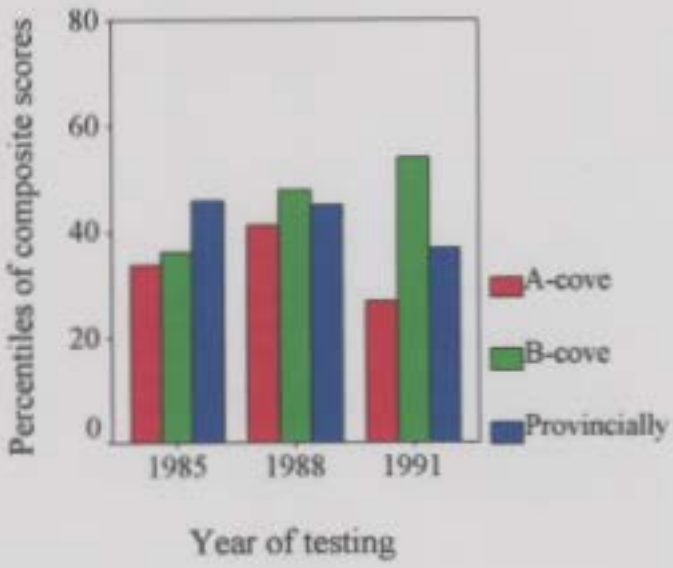


Figure 15. Grade six CTBS composite scores in A-cove, B-cove and provincially between 1985 and 1991

Figure 16 shows the CTBS percentile scores throughout the moratorium for grade four students in A-cove between 1987 and 1996. In general, the percentiles of each type of test increased slightly between 1987 and 1990, decreased between 1990 and 1993 and then showed a sharp increase between 1993 and 1996. Reading scores did not follow this trend between 1987 and 1990 as they decreased during this period. Likewise, vocabulary scores were the only ones to decrease between 1993 and 1996. In A-cove, math was generally the highest score, while vocabulary was lowest.

In B-cove, there was an initial decrease in all test areas with the exception of language (Figure 17). This decrease became more pronounced between 1990 and 1993 (with the exception of math scores) and then results saw a sharp increase between 1993 and 1996. Language, work study and math showed high scores in B-cove between 1987 and 1996, while vocabulary was lowest throughout this period.

Provincially, all subjects with the exception of language and work study decreased between 1987 and 1990 (Figure 18). Between 1990 and 1993 all tests except language showed improved scores. All areas of study increased provincially between 1987 and 1996. Math scores were generally high between 1987 and 1996 while vocabulary was lowest.

In general, the scores in B-cove were higher than those in both A-cove and provincially during all four test years. B-cove also showed a more dramatic increase in test scores between 1993 and 1996 than the other two test regions. For all three regions, math showed the highest CTBS percentiles and vocabulary showed the lowest percentile scores. Appendix I gives the specific scores for each of these regions and time periods.

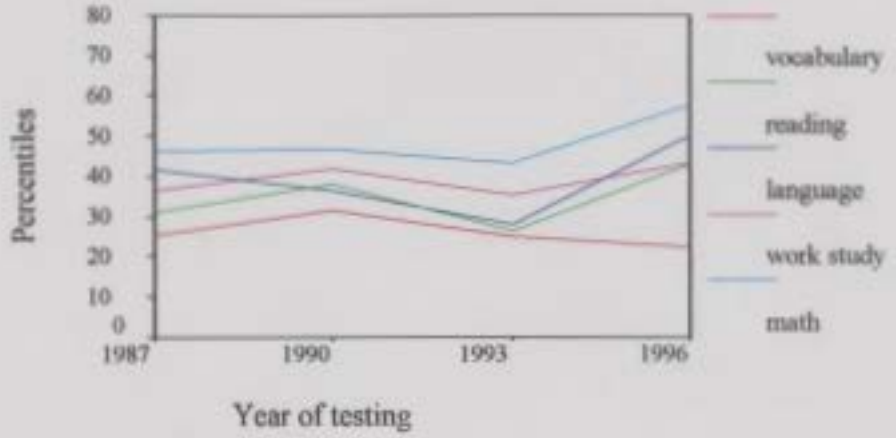


Figure 16. Grade four CTBS percentile scores in A-cove between 1987 and 1996

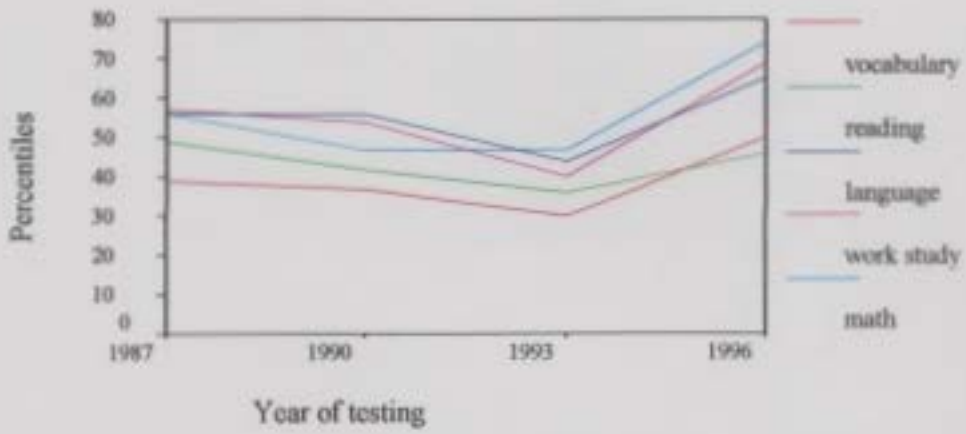


Figure 17. Grade four CTBS percentile scores in B-cove between 1987 and 1996

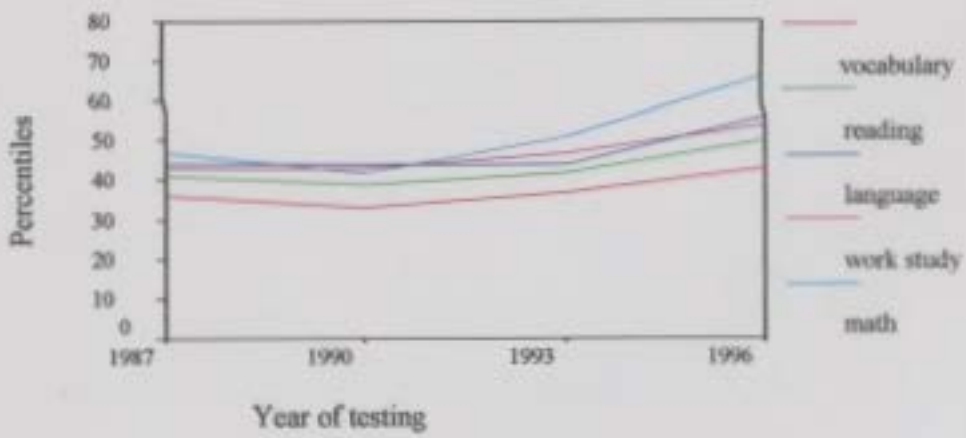


Figure 18. Grade four CTBS percentile scores provincially between 1987 and 1996

The composite scores in Figure 19 offer a comparison of each region between 1987 and 1996. Again, it can be seen that A-cove showed the lowest scores across all four time periods. B-cove had the highest scores except in 1993 when the provincial results were highest. Figure 19 also illustrates the rise in test scores between 1993 and 1996. This increase occurred in A-cove, B-cove and provincially.

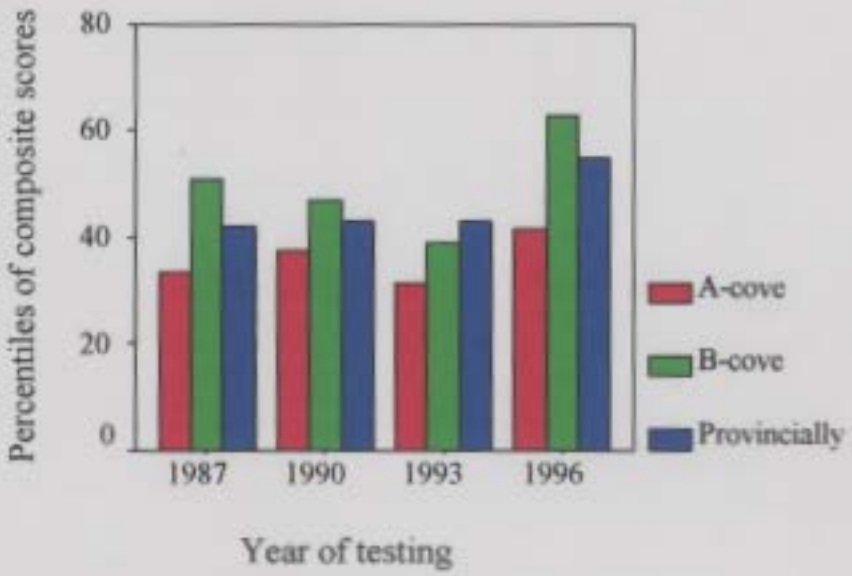


Figure 19. Grade four CTBS composite scores in A-cove, B-cove and provincially between 1987 and 1996

When looking at the general trends in grade six scores prior to the moratorium and grade four scores following the moratorium (Figures 12 through 19) it appears that the most dramatic improvements occurred following the moratorium. A-cove, B-cove and provincial results all showed an improvement between 1993 and 1996. Prior to this time, scores for all three regions were relatively constant with slight increases and decreases. These results suggest that the moratorium may have influenced performance in the CTBS over time, however, the possibility of cohort effects cannot be dismissed.

# CHAPTER 5: DISCUSSION

This study was designed to investigate the future career interests, community perceptions and academic achievement of grade four students in two rural Newfoundland communities. Students participated in the study through the administration of a survey on career goals and discussion groups focusing on community perceptions. Academic achievement over time was assessed through CTBS scores obtained from the Newfoundland and Labrador Department of Education.

The 1992 fisheries moratorium was similar to previous economic crises such as the Mid-Western farming crisis of the 1980's in that many residents were left unemployed with few other alternatives for work in their communities. However, negative reactions to economic loss that are often seen in adults such as helplessness and depression (Schliebner & Peregoy, 1994) appeared to be mediated by strong social support networks in the fishing communities (Ommer, 2002). Another source of community resilience throughout the moratorium may have been the implementation of the TAGS program that offered financial assistance to unemployed fishers and supported educational upgrading (Human Resources Development Canada, 1998).

Community response to crisis often varies with respect to economic renewal. A-cove and B-cove were no exception. As outlined in the community descriptions, A-cove turned to other industries outside of the fishery upon the onset of the moratorium. In relation to Findlay's (2003) criteria for sustainability, A-cove demonstrated strong economic viability by focusing employment in the large industrial plant and a nearby construction site. A-cove was also fortunate to invest in a local fish harvesting and processing plant thereby increasing employment opportunities while maintaining ecological integrity as fish resources were then

protected and managed. B-cove, however, did not have an alternate industry to turn to and unemployment rates remained high throughout the moratorium. In this sense, A-cove can be seen as a leading community as described by Reimer (2000) and B-cove as a lagging community. It is within the context of differing community reactions to economic change that children's future career goals, community perceptions and academic achievement were investigated.

### 5.1 Future career interests

Results from this study supported Gottfredson's (1981; 2002) *Developmental Theory* in which children between the ages of nine and thirteen begin to imagine themselves in future career roles. Indeed, ten year-old students in this study had thought about future careers and had considered their reasons for choosing or not choosing certain careers. Consistent with Ginzberg et al.'s (1951) theory on career development, students seemed to base their goals on fantasy choices and examples from their every day lives. Many students in both communities mentioned the desire to become a professional athlete because of the money and fame while others mentioned careers based on their liking for certain classes in school. Few participants in either community noted fishing as a future career goal and in A-cove, there were no students who wished to work in the fish plant. These findings were consistent with a previous study by Maher (2002) who found that in 1999, two thirds of grade twelve students in rural Newfoundland felt that there would be a decrease in employment within the fishery. It appears that children as young as ten years of age also perceive a lack of opportunity within this industry.

Participants from B-cove in particular were less likely than those in A-cove to choose fishing as a future career. Perhaps the continuing prosperity of the fish harvesting plant in A-cove may have instilled some confidence in the fishery within this latter group. However, students in B-cove that has experienced little fortune with economic renewal since the moratorium, were unlikely to view fishing as a future employment possibility. Another difference between the two communities was in students' sources of career information. The majority of those in A-cove chose careers based on their liking for a certain activity or because they saw it on television. This relaxed approach towards the future may stem from a secure economy within this community.

Students in B-cove were more likely to have gathered information from relatives and have based their future goals on these conversations. This shows that there is increased concern towards careers and finding employment in this region. Children as young as ten years of age have discussed with their relatives the lack of work in the fishery and wish to pursue careers outside of this field. In this sense, it appears that the moratorium has not had an effect of hopelessness when thinking of the future. Instead children in B-cove, which has a high rate of unemployment, were looking toward options outside of the fishery for future employment. This resilience may be the result of strong social supports within the community. As shown by Parcel and Menaghan (1994), children often imitate their parent's coping strategies. Following the moratorium, Ommer (2002) found that adults in rural Newfoundland relied on a strong sense of community and close emotional ties with one another when dealing with economic crisis.

Students' ratings of desirability of certain careers indicated some differences between the communities. Participants in B-cove rated employment in the fishing industry less

favorable than ratings by students in A-cove. These findings may be due to the differing economic situations between the two communities. As fishing is still seen as a viable industry in A-cove, it follows that students in this community might wish to pursue careers in this field. Conversely, those in B-cove seemed to realize the lack of opportunities in the fishery and instead preferred to envision themselves in fields such as health care and education. With the latter field in mind, it is also of interest that students in this community rated "be a school teacher" and "read books" much more favorably than those in A-cove. This may be an indication of the importance placed on post-secondary education within this region.

**5.2 Community perceptions**

Although participants in A-cove noted that the fishery was a career option, they found that it was not an attractive one. Both the fishery and the large industrial plant were seen as unpleasant and dangerous professions. When these students talked about leaving the community, it was for adventure and to escape boredom. Post-secondary education was looked upon favorably, but was not thought to be essential for their future success. Again, these results portray a community that is seen as economically stable. Leaving the community is seen as a career option rather than a necessity. Even adolescents in A-cove were viewed as having the option of either working in the community or leaving for further education and employment.

The general perception of careers in the community was different in B-cove. Participants felt that the fishery would not be a career option in the future and that leaving would be necessary in order to find employment. In B-cove, there was an emphasis on the

importance of post-secondary education and it was deemed an important step in finding work. It seems therefore, that even at this young age students in an economically unstable community were knowledgeable about the need to leave in the future. They also saw that adolescents were leaving upon high school graduation and that they too would most likely follow that path. It appears that grade four students viewed the economic situation of their community similarly to adolescents interviewed in Pinhorn (2002) and Genge (1996). These studies indicated that while adolescents viewed their communities as a desirable place to live, they felt that they would need to leave in search of further education and employment. The fishery was not seen as a career option and there were few alternatives for work.

In general, participants in A-cove and B-cove viewed their communities quite positively and appreciated the family and social supports to which they had become accustomed. They also enjoyed the outdoor activities that their communities had to offer such as camping, biking and for some, recreational fishing. When asked about the possibility of moving in the future, students mentioned the importance of staying close to family. These results are again consistent with those from the Genge (2002) and Pinhorn (1996) studies on adolescents. Malatest (2002) also found that youth in rural areas across Canada felt that their communities were safe, clean and generally desirable places to live due to strong social supports. However, perceptions of educational and employment opportunities were more negative.

During times of economic loss, results from this study demonstrate the need for social supports when developing resilience. Adults and adolescents in rural Newfoundland communities have in the past, been shown to value family connections and a close sense of friendship throughout the community (Ommer, 2002; Malatest, 2002). Similarly, the grade

four students interviewed in this study, noted their appreciation of social supports. It follows, that the negative effects of economic crisis that have been found in the past (Schliebner & Peregoy, 1994) such as helplessness and depression may have been mediated by the strong social networks found in rural Newfoundland communities. Instead of a cycle of negative parental and child reactions to unemployment (Elder et al., 1994; Kloep 1995), it appears that students perceived their parents as generally positive when thinking about the future. These results are again similar to those found in adolescent studies by Genge (2002) and Pinhorn (1996) in which parents have encouraged education and the prospect of work opportunities outside of the community.

As described by Jahoda et al. (1971), one of the main reasons for negative reactions following unemployment, is the loss of one's social contact. Perhaps this loss was not as profound in rural communities following the moratorium because residents in these communities had strong social ties. Therefore, employment was not their only source of social contact. The large number of residents facing unemployment following the moratorium may have also acted as a buffer against depression as residents experienced the loss together and could relate to one another. With these mediating factors in mind, one can see that children in these communities were able to react positively to economic change and to value education. This is especially evident in B-cove.

As participants discussed the moratorium, it was apparent that they were knowledgeable about the current state of the fishery. They were aware of the limits placed on fishing and the legal consequences of ignoring these limits. Most students were able to explain the ecological reasons for closing the fishery. In B-cove they were also able to relate their knowledge to the topic of future careers and the lack of employment in this industry.

These results support those found by O'Neill (1998) in which children in rural Newfoundland in grades three and six were more familiar with the occupational role of a fisherman than any other career role. It seems that although the fishing industry has decreased since the moratorium, it is still an important part of rural Newfoundland communities.

Students viewed parental influence differently in the two communities. In A-cove, parents were thought to value the need to find work upon high school graduation either within or outside of the community. In B-cove, students perceived their parents as placing an emphasis on education and then work outside of the community. Again, these results are consistent with the differing economic situations between the two regions. It seems that despite the low adult literacy levels (Human Resources Development Canada, 1998) in rural communities, parents are supportive of their children pursuing further education. This also supports research by Genge (1996), which found that parents of adolescents in rural Newfoundland communities stressed the importance of post-secondary education. Pinhorn (2002) also noted that while parent's valued social ties within their rural communities they also supported the need for their children to leave in search of education and employment.

### 5.3 Academic achievement

Newfoundland has made significant gains in educational achievement within the past 27 years (Government of Newfoundland and Labrador). These changes have also been shown to be greater than national increases across Canada within this period of time. While these increases have focused on adults, it has also been shown that adolescents in this

province have made significant educational gains. This was especially during the moratorium in which high school graduation increased by 20%.

Findings from this study support these educational increases during the moratorium as children in grade four demonstrated improvements in CTBS scores between 1993 and 1996. Prior to this period, grade six scores indicated only slight changes in CTBS results. It seems that loss of employment following the moratorium may have increased the importance of education in Newfoundland. This can be seen even more dramatically in B-cove, which had few alternate industries for residents to turn to since the closure of the fishery. Students in this community have had higher increases in CTBS scores than students in A-cove and in provincial scores. These results support past research by Ommer (2002) that found children from rural Newfoundland communities to be resilient towards the economic effects of the moratorium. These children viewed themselves as socially and scholastically competent even though their communities had experienced significant economic loss.

Similar to results found through the group discussions and also adolescent research by Genge (1996), it appears that a certain importance is placed on education within these communities and that this kind of support likely originates from parents. In B-cove, where post-secondary education was thought to be especially important, CTBS scores where generally higher.

Past studies have focused on the negative outcomes of unemployment such as child delinquency, depression and poor academic performance (Elder et al, 1994; Flanagan & Eccles, 1993). In particular, poor academic scores have been linked with emotional difficulties, learning problems and even grade failure (Keating & Hertzman, 1999).

However, this study demonstrates both community and child resilience to economic change with improvements rather than declines in academic scores.

**5.4 Limitations of the study**

One limitation of this study is that students may have influenced one another during the discussion groups. Since the groups consisted of six to eight students it is possible that some individuals may have been too intimidated by the presence of their peers to voice their opinions. This type of peer pressure or group compliance is common in social settings (Forsyth, 1999).

Another type of influence that may have affected students' responses is the difference in teachers between the two schools. It may be that one school places increased importance on pursuing education, while the other may focus on employment. Therefore, differences in students' responses between the communities may be a direct result of school influence. Differences in school involvement in the project may have affected student participation rates since some teachers may have been more inclined than other to remind students of returning the consent forms.

As previously mentioned, CTBS data were limited as only percentile scores were available. This limited the degree to which these data could be analyzed and consequently, in depth comparisons of the two communities across time were not feasible. These data were also somewhat limited by the time frame in which this test is administered. As it focuses on different grades from year to year, the most recent data available for elementary school students were for the year 1996.

A final limitation encountered during this study was due to the nature of the consent form (Appendix E). It seems that perhaps some parents were intimidated by the content of the form as it is a standard form that is based on quantitative medical studies rather than more qualitative and non-invasive research. This form discusses the participants "future care" and also "possible risks and discomforts", which do not seem appropriate for a study of this nature.

## 5.5 Conclusions

Past studies on the effects of economic crisis and unemployment have focused on the reactions of adults and adolescents. It has been largely unknown whether this type of economic change in rural communities may have had any effect on the career interests, community perceptions and academic achievement of children. Findings indicate that grade four students in rural Newfoundland communities had been influenced by the fisheries moratorium. While students of this age had fairly immature and unrealistic career goals, they displayed detailed knowledge of the impact of the moratorium on their choices. In general, fishing was not seen as an attractive or viable career option. At age ten, these children had a detailed understanding of the fisheries moratorium. They described the decrease in cod stocks, the limits placed on fishing and the loss of employment within their communities.

While loss of employment often has negative consequences for families, students in this study demonstrated resiliency and felt that they could succeed in finding work outside of the community. This kind of positive outlook points towards the moderating effect both on parents and children of social ties within rural regions.

Post-secondary education was viewed to be a necessary step in finding employment by many of the students. Similarly, academic achievement in this grade increased following the moratorium as seen by an analysis of CTBS scores. Therefore, education was viewed as important both presently and in the future. Students found their parents to be supportive of post-secondary education and even the need to leave the community in search of work.

Children at the age of ten were considering future careers and were developing interests based on the context of their home and community environment. This was especially evident when comparing A-cove, which had seen some economic recovery following the moratorium with B-cove, which had few alternate sources of employment outside of the fishery. Students in the latter community were less likely to consider the fishery as a career option while those in A-cove thought that they could always work in the fish plant (as it had remained open in conjunction with a fish harvesting operation). Students in B-cove were also more likely to have spoken with relatives about their futures and possible careers. They noticed that adults and adolescents often left the community in search of education and work and mentioned that they too would likely follow the same path. Most students in B-cove stated that there were few work opportunities in their community and that it was difficult to find employment in the fishery since the moratorium. The differences between the two communities were also seen in the comparison of academic achievement in the CTBS. Following the moratorium, grade four students in B-cove showed higher scores in this test that suggested a larger academic improvement than students in A-cove. Again, it should be noted that further studies are needed to more accurately distinguish between moratorium effects and possible cohort effects

In conclusion, the career interests, community perceptions and academic achievement of children in rural Newfoundland communities were influenced by the fisheries moratorium. Variations in community resiliency following this economic change were also seen to impact children's views and future goals.

**5.6 Recommendations**

It seems that children at the age of ten are aware of the economic situations of their communities and are concerned about future education and employment. The results of this study suggest that grade four students would benefit from home and classroom discussion on these topics. Perhaps some options on future educational choices and careers could be presented to children of this age to alleviate concerns and to motivate learning.

Future research in this area could follow children over time to look at changes in their career interests, community perceptions and academic achievement following economic crisis. It would be interesting to note whether the perceptions of these students will change over time or will remain the same even as they mature.

It would also be of interest to expand this study across several communities and to explore similarities and differences in community resilience and the relation to children's interests, perceptions and achievements. With this in mind, one could extend this type of study to look at other economic crises in both rural and urban regions. A comparison of different crises and community resilience would offer the opportunity to explore coping mechanisms which could, in turn, aid residents during future economic changes.

As the present study focused on children at the age of ten, perhaps future research could expand in order to look at the same perceptions in younger children. It seems that at

ten years, children have considered future careers and have formed community perceptions in relation to the economic situation of their home region. However, it is unknown whether children younger than ten have similar thoughts and influences.

In relation to children's views and perceptions, another facet of research may be to further explore the influence of both schools and parents. While this study has noted students' views of their parent's perceptions, it did not gather data from the parents and relate their views with their children's views. Similarly, the schools in each community may impact students' perceptions and an exploratory study might reveal the nature of this influence.

## REFERENCES

Billson, J. & Terry, M. (1982). *In search of the silken purse: Factors in attrition among first-generation students.* Revision of a paper presented at the Annual meeting of the Association of American Colleges. Denver, CO, January 1981. (ERIC Document Reproduction Service No. ED 214 431).

Binkley, M. (1995). Lost moorings: Offshore fishing families coping with the fisheries crisis. *Dalhousie Law Journal, 18*(1), 84-95.

Community Accounts. (2003). *Population pyramids and community profiles.* St. John's: Community Accounts. Retrieved April 20, 2003 from http://www.communityaccounts.ca/communityaccounts/onlinedata.html

Creswell, J. (1998). *Qualitative inquiry and design. Choosing among five traditions.* London, UK: Sage.

Couchenour, D. & Chrisman, K. (2000). *Families, schools, and communities: together for young children.* Toronto, ON: Thomson Learning.

Daiute, C. (1993). *The development of literacy through social interaction.* San Francisco, CA: Jossey-Bass.

Duncan, G., Yeung, W., Brooks-Gunn, J. & Smith, J. (1998). How much does childhood poverty affect the life chances of children? *American Sociological Review, 63,* 406-423.

Elder, G. (1998). *Children of the Great Depression.* New York, NY: Westview Press.

Elder, G., Lorenz, F. & Simons, R. (1994). Economic stress, coercive family process and developmental problems of adolescents. *Child Development, 65,* 541-561.

Fagan, W. (1998). *Literacy for living, a study of literacy and cultural context in rural Canadian communities.* St. John's, NL: Institute of Social and Economic Research.

Findlay, R. (2003). *Resilience and sustainable community design: the cases of Pukapuka, Lowa and la Bahia de Jiquilisco.* Iowa: Iowa State University. Retrieved June 20 from http://www.grif.umontreal.ca/pages/i-rec%20papers/robert.PDF.

Flanagan, C. & Eccles, J. (1993). Changes in parents' work status and adolescents' adjustment at school. *Child Development, 64,* 246-257.

Flexner, A. (1915). Is social work a profession? *School Society, 1*(26), 901.

Forsyth, D. (1999). *Group dynamics, third ed.* Toronto, ON: Wadsworth.

Frude, N. (1991). *Understanding family problems: A psychological approach.* Toronto, ON: John Wiley & Sons.

Genge, E. (1996). *Initial transition from high school, decisions and aspirations of rural Newfoundland and Labrador youth.* Memorial University of Newfoundland. Unpublished Masters Thesis.

Gien, L. (2000). Land and sea connection: The east coast fishery closure, unemployment and health. *Canadian Journal of Public Health, 91*(2), 121-124.

Ginzberg, E., Ginsberg, S. W., Axelrad, S. & Herma, J. (1951). *Occupational choice: An approach to a general theory.* New York, NY: Columbia University Press.

Golbeck, S. (2001). *Psychological perspectives on early childhood education: Reframing dilemmas in research and practice.* Mahwah, NJ: Lawrence Erlbaum.

Gottfredson, L. (1981). Circumscription and compromise: A developmental theory of occupational aspiration. *Journal of Counseling Psychology, 28*, 545-479.

Gottfredson, L. (2002). Gottfredson's theory of circumscription, compromise, and self creation. In Brown, D. (2002). *Career choice and development.* (Ch. 4). San Francisco, CA: Jossey-Bass.

Government of Newfoundland and Labrador (1998). *Postsecondary indicators '98.* St. John's: Government of Newfoundland and Labrador. Retrieved June 20, 2003 from http://www.gov.nf.ca/youth/pub/ind97/CHAPT3.PDF

Harding, L. & Sewel, J. (1992). Psychological health and employment status in an island community. *Journal of Occupational and Organizational Psychology, 65,* 269-275.

Hill, R. (1983). *The meaning of work and the reality of unemployment in the Newfoundland context.* St. John's, NL: The Community Services Council.

Human Resources Development Canada. (1998). *Evaluation of the Atlantic Groundfish Strategy (TAGS), TAGS/HRDC final evaluation report.* Ottawa: Human Resources Development Canada. Retrieved February 3, 2003 from http://www11.hrdc-drhc.gc.ca/pls/edd/TAGS.lhtml

Jahoda, M. (1982). *Employment and unemployment, a social-psychological analysis.* New York, NY: Cambridge University Press.

Jahoda, M., Lazerfeld, P. & Zeisel, H. (1971). *Marienthal: The sociography of an unemployed community.* New York, NY: Aldine-Atherton.

Jentoff, S. (1993) *The fisheries crisis and the future of coastal communities: The Norwegian experience.* St. John's, NL: Institute of Social and Economic Research.

Johnson, D. J. (1995). *Computers, ethics and social values.* New Jersey. Prentice Hall.

Kavanagh, R. (2003). *National trading standards for trades training, improved labour mobility, workforce competitiveness and enhanced employability options for Newfoundland and Labrador students and workers.* St. John's: Community Prospects. Retrieved June 20, 2003 from http://www.stemnet.nf.ca/community/prospects/v3n4/nstt.html

Keating, D. & Hertzman, C. (1999). *Developmental health and the wealth of nations.* New York, NY: The Guilford Press.

Klebanov, P., Brooks-Gunn, J., McCarton, C. & McCormick, M. (1998). The contribution of neighborhood and family income to developmental test scores over the first three years of life. *Child Development, 69*(5), 1420-1436.

Kloep, M. (1995). Concurrent and predictive correlates of girl's depression and antisocial behaviour under conditions of economic crisis and value change: the case of Albania. *Journal of Adolescence, 18,* 445-458.

Lempers, J., Clark-Lempers, S. & Simons, D. (1989). Economic hardship, parenting, and distress in adolescence. *Child Development, 60,* 25-39.

Lind, C. (1995). *Something's wrong somewhere: Globalization, community and the moral economy of the farm crisis.* Halifax, NS: Fernwood.

Malatest, R. A. (2002). *Rural youth study, phase II rural youth migration: Exploring the reality behind the myths.* Ottawa, ON: Statistics Canada.

Martinez-Brawley, E. & Blundall, J. (1991). Whom shall we help? Farm families beliefs and attitudes about need and services. *Social Work, 36*(4), 315-321.

Mayer, S. (2000). *The career aspirations of grade twelve students in central Newfoundland.* Memorial University of Newfoundland. Unpublished Masters Thesis.

Morrow, L. (1995). *Family literacy, connections in schools and communities.* Newark, DE: International Reading Association.

Morris-Vann, A. (1990). Testimony. In Voydanoff, P. & Majka, L. (Eds). *Families and economic distress: Coping strategies and social policy* (pp. 124-125). Newbury Park, CA: Sage.

Murray, M., Hargrove, D. & Blank, M. (1998). Mental health in rural society. In Bellack, A. S. & Hersen, M. (1998). *Comprehensive clinical psychology.* (Vol. 10). (pp.255-276). Oxford: Pergamon.

Myers, D. *Psychology.* (1995). New York, NY: Worth.

Newedge Technologies. (2003). *Destination Newfoundland.* Newedge Technologies. Retrieved May 2, 2003 from http://destination.nfld.com/common/map

Ommer, R. (2002). *The resilient outport.* St. John's, NL: Institute of Social and Economic Research.

O'Neill, R. (1998). *An evaluation of the career development of elementary school age children in Newfoundland, from a developmental theory of career choice and commitment.* Memorial University of Newfoundland. Unpublished Masters Thesis.

Ortega, S., Johnson, D., Beeson, P. & Craft, B. (1994). The farm crisis and mental health: a longitudinal study of the 1980's. *Rural Sociology, 59*(4), 598-619.

Parcel, T., Menaghan, E. (1994). *Parent's jobs and children's lives.* New York, NY: Walter de Gruyter.

Pavalko, R. M. (1988). *Sociology of occupations and professions.* (2nd Ed.). Itasca, IL: FE. Peacock.

Perry, S. (2000). *Tools and techniques for community recovery and renewal.* Port Alberni, BC: Center for Community Enterprise.

Pinhorn, L. (2002). *Post-high school aspirations of rural Newfoundland and Labrador youth years after the cod moratorium: A new generation.* Memorial University of Newfoundland. Unpublished Masters Thesis.

Pratt, P. & Skaggs, C. (1989). First generation college students: Are they at greater risk for attrition than their peers? *Research in rural education, 6* (2): 31-34.

Reimer, B. (2000). *Leading and lagging sites in rural Canada. The new rural economy project.* Montreal: Concordia University. Retrieved June 20, 2003 from http://nre.concordia.ca

Rosenblatt, P. (1992). *Farming is in our blood, farm families in economic crisis.* Iowa, IA: Iowa State University Press.

Schliebner, C. & Peregoy, J. (1994). Unemployment effects on the family and the child: interventions for counselors. *Journal of Counseling and Development, 72,* 368-372.

Schmidt, J. (1999). *Counseling in school, essential services and comprehensive programs.* Toronto, ON: Allyn and Bacon.

Seifert, T. (2000). Considerations on motivation: self-assuredness and agency. In I. Baksh, G. Hache, & A. Singh (Eds.), *Studies in Newfoundland education and society.* (pp. 941-949). St. John's, NL: Memorial University of Newfoundland.

Seligman, M. (1975). *Helplessness: On depression, development, and death.* New York, NY:Scribner.

Sinclair, P. (2002). *Endangered communities: approaching the end of history in rural Newfoundland and Labrador?* Retrieved April 2, 2003 from http://www.ucs.mun.ca/~peters/Endangered%20Communities%202.pdf.

Slade, W. (2003). *The town of A-cove.* A-cove: The Town of A-cove. Retrieved May 2, 2003 from http://www.townofarnoldscove.com

Stewart, M., Reid, G., Buckles, L., Edgar, W., Mangham, C., Tilley, N. & Jackson, S. (1999). *A study of resiliency in communities.* Ottawa: Health Canada. Retrieved February 3, 2003 from http://www.hc-sc-gc.ca/hppb/alcohol-otherdrugs

Strauss, A. & Corbin, J. (1998). *Basics of qualitative research. Techniques and procedures for developing Grounded Theory.* London, UK: Sage.

Super, D. E. (1990). A life-span approach to career development. In Brown, D., Brooks, L. & Assoc. (Eds.), *Career choice and development: Applying contemporary theories to practice* (pp. 197-261). San Francisco, CA: Jossey-Bass.

Swanson, J. & Parcover, J. (1998). Annual review: Practice and research in career counseling and development – 1997. *The Career Developmental Quarterly, 47,* 99-135.

Taylor, G. (2002). *Town of B-cove.* Retrieved May 2, 2003 from http://www.b-cove.net

The Navigator. (2003). *Untitled.* The Navigator Inc. Retrieved April 20, 2003 from http://www.thenavigatormagazine.com/back_issues/nov1998.htm

Wolfe, J., Masrour, F., Coursay, R. & Kempter, M. (1986). *Farm family financial crisis: Overview of impacts and responses.* Ontario, ON: Canadian Cataloguing in Publication Data.

Women's Bureau of Labour Canada. (1986). *When I grow up.* Toronto, ON: Labour Canada.

# APPENDIX A
## Survey on early career interests

(Adapted from a questionnaire in "When I Grow Up, Career Expectations and Aspirations of Canadian School Children", 1986, Labour Canada)

**Study of Early Career Interests**

**Age:** _____

**Gender: Girl ☐ Boy ☐**

1(a) What do you want to be when you grow up?_____
_____

(b) How did you get this idea?
_____
_____

2. What would be your second choice?
_____
_____

3. What other jobs do you think you might like to do when you are older?
_____
_____
_____

4. There are a number of activities listed below. Put a check mark in the space that tells best how you think you would like to do these things when you are grown up.

| | | like a lot | like a little | would not like |
|---|---|---|---|---|
| (a) | Pilot a plane ---------- | _____ | _____ | _____ |
| (b) | Sell things in a store ---------- | _____ | _____ | _____ |
| (c) | Design rocket ships ---------- | _____ | _____ | _____ |
| (d) | Be a fisher ---------- | _____ | _____ | _____ |
| (e) | Watch for forest fires ---------- | _____ | _____ | _____ |
| (f) | Build furniture ---------- | _____ | _____ | _____ |
| (g) | Read books ---------- | _____ | _____ | _____ |
| (h) | Operate on a sick person -------- | _____ | _____ | _____ |
| (i) | Repair a toaster ---------- | _____ | _____ | _____ |
| (j) | Type letters for someone -------- | _____ | _____ | _____ |
| (k) | Be a school teacher ---------- | _____ | _____ | _____ |
| (l) | Play a musical instrument ------- | _____ | _____ | _____ |
| (m) | Fix a car ---------- | _____ | _____ | _____ |
| (n) | Use a computer ---------- | _____ | _____ | _____ |
| (o) | Look after small children -------- | _____ | _____ | _____ |
| (p) | Work in a fish plant ---------- | _____ | _____ | _____ |
| (q) | Bake cakes---------- | _____ | _____ | _____ |

# APPENDIX B
## Discussion/interview guide

**Discussion/Interview Guide - Students (Age 10-12)**

* It should be noted that the teacher will be accessible at all times and if any students show discomfort or become upset the discussion will end and the teacher will intervene.

* This discussion will be audio recorded

Introduction/Preamble

"Hello, my name is Sarah and I'm a student with Memorial University in St. John's. I'm doing a project on your community and I was wondering if you could help me. I have not been here before, so I was hoping that you could tell me about the things that people like to do here. I would like to talk to about six students at a time in another room so that we do not disrupt the class. You do not have to do this study with me and you can stop and come back to the classroom any time during our talk."

Thematic Discussion

Community

1) What do people do in this community?

2) What do people do in their spare time?

3) What do you know about the cod moratorium?

Work and Family

1) What kind of jobs are there in your community?

2) Do you have any older brothers or sisters? What do they do?

Careers and Children

1) a- What would you like to be when you are older?
   b- Do you think that you will want to work and live here when you are older? Why or why not?

2) What do you think about going to university or college?

# APPENDIX C
## Letter to school district directors and teachers

Memorial University of Newfoundland
Department of Community Health
Faculty of Medicine
St. John's, Newfoundland

Dear School District directors and teachers;

We are inviting the school district to participate in an ongoing research project with a study involving natural resource depletion and health with Memorial University of Newfoundland that is funded by the Social Sciences Health Research Council.

This part of the study focuses on children's career goals in rural Newfoundland communities that have been affected by the cod moratorium. We would like to select the elementary schools in A-cove and in B-cove as the focus of this study as these communities have experienced different economic outcomes following the moratorium. The age group of grade four students is of particular interest since career goals begin to develop during pre-adolescence. Students and teachers will also be invited to participate in small discussion groups that will take approximately 30 minutes during school.

In addition, we are interested in how children's attitudes towards their communities and future career possibilities are shaped by their parents. Therefore parents of grade four students will also be invited to participate, although these interviews should not directly affect the schools.

Research of this type may be useful in rural communities that may experience future economic changes. These communities could become better educated in coping strategies that would eventually aid the academic and career success of their children.

A brief introduction, procedure and a copy of the discussion question for students and teachers is attached. If you have any questions or concerns please feel free to contact us.

Thank you, we look forward to discussing this project with you.

Sarah Sharpe ssharpe321@hotmail.com
Division of Community Health, Faculty of Medicine
Memorial University of Newfoundland

**APPENDIX D**
**Letter to parents and guardians of grade four students**

Memorial University of Newfoundland
Department of Community Health
Faculty of Medicine
St. John's, Newfoundland

Dear Parents/Guardians;

I am writing to invite you and your grade four son or daughter to participate in a study on children's career goals in rural Newfoundland communities that have been affected by the cod moratorium. This particular age group is of interest since career goals begin to develop during the pre-teen years. Students will be asked to participate in small discussion groups that will take approximately 30 minutes during school.

In addition, I am interested in how children's attitudes towards their communities and future career possibilities are shaped by their parents. I would appreciate the opportunity to hold small group discussions (approximately 30 minutes) with parents in order to view how children's attitudes emerge within family settings. With the understanding that busy schedules may make this difficult, the interviews can take place at your convenience over the telephone.

This research is a joint project with an ongoing study involving natural resource depletion and health with Memorial University of Newfoundland and is funded by the Social Sciences Health Research Council. This type of research may be useful in rural communities that may experience future economic changes. These communities could become better educated in coping strategies that may aid the career success of their children.

If you are interested in participating, please complete the attached form and ask your son/daughter to return it to their teacher. I will gladly answer any questions and I can be reached at the phone number below. This type of research is valuable in helping children in rural communities and I hope that you will be able to participate. I look forward to your reply.

Thank You.

Sincerely,

Sarah Sharpe

# APPENDIX E
## Study information and consent forms

Memorial University of Newfoundland
Department of Community Health
Faculty of Medicine
St. John's, Newfoundland

Dear Parents/Guardians;

I am writing to invite you and your grade four son or daughter to participate in a study on children's career goals in rural Newfoundland communities that have been affected by the cod moratorium. Students will be asked to fill out a short career questionnaire and participate in small discussion groups that will take approximately 20 minutes during school.

In addition, I am interested in how children's attitudes towards their communities and their future career goals are shaped by their parents. I would appreciate the opportunity to hold short interviews (approximately 20 minutes) with parents in order to view how children's attitudes emerge within family settings. With the understanding that busy schedules may make this difficult, the interviews can take place at your convenience over the telephone. This part of the study will be organized at a later date and participation will not be expected after signing this form

This research is a joint project with an ongoing study involving natural resource depletion and health with Memorial University of Newfoundland and is funded by the Social Sciences Health Research Council. This type of research may be useful in rural communities that may experience future economic changes. These communities could become better educated in coping strategies that may aid the career success of their children.

This study has been approved by the school board and by the principle at your child's school. They have reviewed the documentation and fully support this study.

_____
Signature of School Principle

If you agree to your son/daughter's participation, please complete the attached signature page and ask them to return it to their teacher. I will gladly answer any questions and I can be reached at the phone number below. This type of research is valuable in helping children in rural communities and I hope that you will be able to participate. I look forward to your reply.

Thank You.

Sincerely,
Sarah Sharpe

**FACULTY OF MEDICINE, SCHOOL OF PHARMACY, SCHOOL OF NURSING OF MEMORIAL UNIVERSITY OF NEWFOUNDLAND;**
**NEWFOUNDLAND CANCER TREATMENT AND RESEARCH FOUNDATION;**
**HEALTH CARE CORPORATION, ST. JOHN'S**

**Consent to Take Part in Health Research**

TITLE: The Impact of the 1992 Newfoundland Fisheries Crisis on School Children in Rural Communities: A Focus on Community Perceptions, Future Career Interests and Academic Achievements.

**INVESTIGATORS:** Sarah Sharpe, Dr. Michael Murray, Dr. Lan Gien, Dr. William Kennedy

You have been asked to take part in a research study. It is up to you to decide whether to be in the study or not. Before you decide, you need to understand what the study is for, what risks you might take and what benefits you might receive. This consent form explains the study.

The researchers will:
- **Discuss the study with you**
- **Answer your questions**
- **Keep confidential any information which could identify you personally**
- **Be available during the study to deal with problems and answer questions**

**1. Introduction:** The fisheries moratorium has effected the economy of rural Newfoundland communities. This in turn has altered family life both financially and socially. While these effects have been documented in adults, there has been little research into the possible long term effects on children career goals. Therefore, rural communities that may experience future economic changes such as the moratorium, could become better able to aid the career success of their children.

**2. Purpose of study:** To compare the long term effects in B-cove and A-cove of the fisheries moratorium on school aged children.

**3. Procedure:**
- During the school day (determined by teachers) students will be asked if they would like to participate in the study. If so, they will first be asked to complete a short questionnaire on their career goals. They will then be divided into groups of approximately six and each group will have the opportunity to go to another room with the researcher (Sarah Sharpe).
- Each group will take part in a 20 min. discussion on career goals and views about the community
- Teacher's will be interviewed at an appropriate time during the school day
- Parent's will be contacted by phone to be invited to participate in a short phone interview on the topic of their children's community perceptions and career goals. These interviews will take place at parents' convenience
- Following these discussions, results from the study will be provided to schools and parents with an opportunity given to ask questions and discuss the study

**4. Length of time:** All discussions with students, teachers and parents will take approximately 20 minutes each.

**5. Possible risks and discomforts:** There are no foreseeable risks or discomforts in taking part in this study. All participation is voluntary.

**6. Benefits:** We cannot guarantee that your children will benefit from taking part in this study.

**7. Liability statement:** Signing this form gives us your consent for your child to be in this study. It tells us that you understand the information about the research study. When you sign this form, you do not give up your legal rights. Researchers or agencies involved in this research study still have their legal and professional responsibilities.

**8. Confidentiality:** No names will be used throughout this study. No students, parents or teachers will be identified in results. All academic scores will be in a group format representing entire classes. Again, no student names will be given.

# APPENDIX F
## Approval by the Human Investigation Committee

**APPENDIX G**
**Approval by the Human Investigation Committee for continuation of research**

**Appendix H**
**A summary of grade six CTBS percentile scores in A-cove, B-cove and provincially between 1985 and 1991**

| | Test | 1985 | 1988 | 1991 |
|---|---|---|---|---|
| **A-cove** | Vocabulary | 32 | 31 | 29 |
| | Reading | 41 | 41 | 32 |
| | Language | 37 | 37 | 27 |
| | Work study | 35 | 40 | 34 |
| | Math | 38 | 33 | 29 |
| | Composite | 34 | 41 | 27 |
| | | | | |
| **B-cove** | Vocabulary | 32 | 43 | 41 |
| | Reading | 38 | 50 | 50 |
| | Language | 36 | 48 | 61 |
| | Work study | 42 | 47 | 64 |
| | Math | 32 | 50 | 56 |
| | Composite | 36 | 48 | 54 |
| | | | | |
| **Province** | Vocabulary | 43 | 42 | 35 |
| | Reading | 46 | 46 | 43 |
| | Language | 44 | 43 | 40 |
| | Work study | 42 | 43 | 42 |
| | Math | 44 | 43 | 36 |
| | Composite | 46 | 45 | 37 |

**Appendix I**
**A summary of grade four CTBS percentile scores in A-cove, B-cove and provincially between 1987 and 1996**

| | Test | 1987 | 1990 | 1993 | 1996 |
|---|---|---|---|---|---|
| **A-cove** | Vocabulary | 25 | 32 | 25 | 22 |
| | Reading | 31 | 38 | 26 | 43 |
| | Language | 42 | 36 | 28 | 50 |
| | Work study | 36 | 42 | 35 | 43 |
| | Math | 46 | 47 | 43 | 58 |
| | Composite | 34 | 38 | 31 | 42 |
| | | | | | |
| **B-cove** | Vocabulary | 39 | 37 | 30 | 50 |
| | Reading | 49 | 42 | 36 | 46 |
| | Language | 56 | 56 | 44 | 65 |
| | Work study | 57 | 54 | 40 | 69 |
| | Math | 56 | 47 | 47 | 74 |
| | Composite | 51 | 47 | 39 | 63 |
| | | | | | |
| **Province** | Vocabulary | 36 | 33 | 37 | 43 |
| | Reading | 41 | 39 | 42 | 50 |
| | Language | 44 | 44 | 44 | 56 |
| | Work study | 43 | 43 | 47 | 54 |
| | Math | 47 | 42 | 51 | 66 |
| | Composite | 42 | 43 | 43 | 55 |